DOCUMENT RESUME

ED 239 819 RC 014 586

AUTHOR Bhola, H. S.
TITLE Curriculum Development for Functional Literacy and Nonformal Education Programs. Workshop.
INSTITUTION German Foundation for International Development, Bonn (West Germany).
PUB DATE 79
NOTE 279p.; For related documents, see RC 014 587.
PUB TYPE Guides - General (050)

EDRS PRICE MF01/PC12 Plus Postage.
DESCRIPTORS Adult Education; Case Studies; Community Development; Community Education; Community Involvement; *Curriculum Development; Curriculum Evaluation; Delivery Systems; Developing Nations; *Educational Strategies; Foreign Countries; *Functional Literacy; Inservice Teacher Education; Instructional Materials; *Instructional Systems; *National Programs; Needs Assessment; *Nonformal Education; Resource Centers; Task Analysis; Workshops
IDENTIFIERS Learning Environment

ABSTRACT

To provide an introduction to processes, issues, and problems of curriculum development in functional literacy and nonformal education, a monograph provides 11 chapters, each followed by exercises. The first chapter discusses curriculum development in relation to national development. The second chapter covers concepts of functional literacy and nonformal education, with particular reference to development objectives. A third chapter presents a model of the curriculum development process, including objectives. Assessing developmental and educational needs of communities, with emphasis on participatory strategies, is covered in a fourth chapter. In the fifth chapter, the concept of instructional systems design is introduced, with elaboration on task analysis, learner analysis, and learning environment analysis, and including an instructional system analyzer. Training of literacy teachers is described in the sixth chapter. The seventh chapter covers a variety of instructional materials for functional literacy, with emphasis on message making. In the eighth chapter, a plan for establishing learning resource centers discusses delivery systems for instruction and instructional materials. The ninth chapter provides case studies of projects in curriculum development/implementation for functional literacy in Brazil, Burma, Colombia, India, Iran, Kenya, Mali, Sudan, Tanzania, and Thailand. The tenth chapter discusses curriculum evaluation, and the eleventh covers training for curriculum development, including a workshop description and questionnaire. (MH)

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WORKSHOP

CURRICULUM DEVELOPMENT FOR FUNCTIONAL LITERACY AND NONFORMAL EDUCATION PROGRAMS

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1979

CURRICULUM DEVELOPMENT
FOR FUNCTIONAL LITERACY
AND NONFORMAL EDUCATION PROGRAMS

H. S. Bhola
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1979

To my Mother—
and that Moment, by the Indian Ocean

Of Development and development

The word "development" will occur in this monograph quite frequently. Sometimes, we will spell it with a capital "D" and, at other times, with a small "d." When spelled as Development (with a capital "D"), it will signify the processes of change that are, more or less, comprehensive, encompassing changes in the economic, social, and political relationships among the people in a society. When spelled as development (with a small "d"), the word will signify the process of planning, designing, producing, or constructing. Thus we will talk of national Development, and sector Development; but we will talk of project development, curriculum development, instructional systems development, and materials development. (See also the Glossary at the end).

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PREFACE

This monograph seeks to provide an introduction to the processes, issues, and problems of curriculum development in functional literacy and nonformal education. The term "nonformal education" is used comprehensively, here. It covers all out-of-school education settings, such as, adult education and community education; agricultural extension and cooperative education; nutrition education, public health and family life education; environmental education and political education; and community development in general.

It is meant to be a practical monograph that can be used in training situations. A careful reading of the material and carrying out of the exercises proposed at the end of each chapter should provide useful ideas and skills to the literacy worker such as: conducting needs assessments; writing educational objectives and designing instructional systems; planning for the production and utilization of curriculum materials; teaching lessons and conducting demonstrations. But in trying to be practical, we have tried not to become pedantic. We have not merely offered lists of steps to follow in developing syllabuses and time tables and for planning and ordering items of audio-visual and print materials. We have offered a comprehensive conceptualization of the process of curriculum development in functional literacy. We have shown how curriculum development in one particular functional literacy project may be linked, horizontally, with other curricula being offered by other projects and over mass media. Some of these may be hidden curricula and some may be counter-curricula opposing established national goals. We have also shown vertical integrations of the process of curriculum development, on the one hand, with national Development objectives and strategies, and on the other hand, with the methods and mechanisms of delivering instruction to the clients of a program—adult learners, living in small rural and urban communities.

Functional literacy workers, and others in the field of nonformal education, did develop curricula as they sought to serve the poor and the underprivileged in the Developing world. They made decisions about what knowledge to impart to adult learners; what attitudes to engender; and what skills to teach. Unfortunately, the process of curriculum development was not always systematic: curricular decisions and choices of instructional activities were based on intuition, and corrected through a process of trial and error. Surely, there were instances when curriculum development was, more or less, deliberate and systematic but nobody wrote about the experience, to share it with others.

Understandably, there is a relative paucity of literature on the subject of curriculum development in the out-of-school settings of functional literacy and nonformal education. There are no classics, not even standard works, that one could go to for learning the trade. This situation will, hopefully, change. Efforts have recently been made to encourage seasoned field workers to write about their experiences in curriculum development; to exchange those experiences with others to help in a cumulation of experience and thereby in the development of a body of literature on the processes of curriculum development in functional literacy and nonformal education. The "International Seminar on Curriculum Development for Basic Education Programmes," organized jointly by the German Foundation for International Development and the International Institute for Adult Literacy Methods, during June 12-21, 1978 in West Berlin, was one such attempt at systematic cumulation of experience. Ten Third World countries were invited to present case studies of curriculum development in functional literacy to this seminar. These countries included Brazil, Burma, Colombia, India, Iran, Kenya, Mali, Sudan, Tanzania, and Thailand. The present monograph on curriculum development for functional literacy and nonformal education is one more step in the systematization of the useful experience that has become available so far.

The present content and organization of the monograph emerged in Kitwe, Zambia during the "Workshop on Curriculum Development for Functional Literacy Programmes" sponsored, again, by the organizers of the West Berlin seminar and held during April 30 to May 12, 1979. The workshop used participative strategies both in planning and instruction. Thus the curriculum for the curriculum development workshop was "invented" in Kitwe through a process of negotiation among the participants, the officials at the headquarters and the workshop faculty. Each group presented its view of what should be learned by participants at the Kitwe workshop to be able to understand and engage in the process of curriculum development for functional literacy. These discussions were later generalized to other programs and cultures with a view to planning this monograph. Thus we learned in Kitwe, Zambia what a training monograph on curriculum development for functional literacy and nonformal education should be.

Now the testing process begins. This monograph will find its first test-in-use in a workshop on curriculum development planned by the German Foundation for International Development for Kericho, Kenya during August 20-31, 1979. There may be further test-in-use workshops and additional revisions before the monograph is offered for possible publication.

Acknowledgements are seldom easy to make, simply because intellectual debts are so hard to account for. I must begin with an expression of sincere gratitude for all those field workers in Africa, Asia, Latin America and elsewhere who have always, so enthusiastically, welcomed me among their midst and taught me so much about curricula in a world of scarcities, uncertainties, and even brutalities. I am grateful also to the many authors, from the professional subculture of literacy and nonformal education, who have thought and written, before me, on the various issues now discussed in the monograph. Thanks are due, especially, to the authors of the case studies presented at the West Berlin seminar on curriculum development, which I attended as one of the resource persons, but where I received more than I gave. Finally, my thanks to my colleagues, Dr. John W. Ryan, past Director of the International Institute for Adult Literacy Methods, Tehran, Iran, and now of UNESCO, Paris; and Dr. Josef Muller of the German Foundation for International Development, for both the challenges and the support.

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CHAPTER I

THE DEVELOPMENT CONTEXT OF CURRICULUM DEVELOPMENT

"Only change is permanent in this world," a poet has said. Indeed, change has always been part of the human history. Change in our times, however, is somewhat different: it is self-conscious, it is planned, and it is often intense.

All over the developing world, planned change is on national agendas. Some call it Development; some call it modernization; and some call it nation building. The central purpose of this planned change seems to be the same everywhere. It is to rid people of poverty, to free them from disease, to provide them with reasonable levels of private consumption; and give them the opportunities to participate in the economic and political life of their societies.

Development (a term we will use here in preference to planned change, modernization, or nation building), is not merely more grain and modern silos to store it. Development is not only more and bigger factories; well-equipped, modern hospitals; electrification and television; bridges, highways and airports. Development is the development of the people in a society. Development means knowledge among people, it means newer attitudes among them, new skills of production and management, new ways of organizing work and participation in political decision making. All this needs education.

President Julius Nyerere of Tanzania put it clearly and concisely: "Development is education."

No wonder then that Development everywhere in the developing world must involve both (a) a course of action, and (b) a course of study. This may be taken to be the basic grammar of Developmental action: Developmental action must always be accompanied by educational action. In other words, Development, everywhere in the world, must have an educational component, if it has to be sustained. Development must be accompanied by curriculum development.

Curriculum development: a model of vertical linkages

The relationship between "the course of action" (Development) and "the course of study" (Education) can be understood through an examination of the model of vertical linkages shown on the following page. The model shows how the process of curriculum development is linked, on the one hand, with national socio-economic Development and, on the other hand, with the design of instructional systems and instructional materials.

Let us elaborate on the various elements of the model below:

National Development

The meanings of Development (with the capital "D") have indeed been elaborated in a preceding paragraph. Essentially, Development means the optimal production of goods and services,

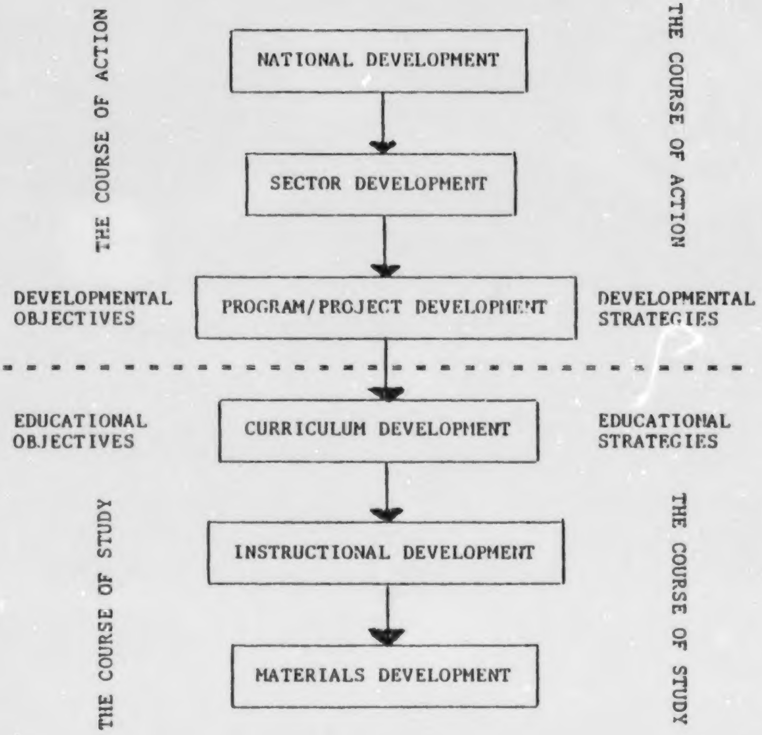

THE COURSE OF ACTION
NATIONAL DEVELOPMENT
SECTOR DEVELOPMENT
THE COURSE OF ACTION
DEVELOPMENTAL OBJECTIVES
PROGRAM/PROJECT DEVELOPMENT
DEVELOPMENTAL STRATEGIES
EDUCATIONAL OBJECTIVES
CURRICULUM DEVELOPMENT
EDUCATIONAL STRATEGIES
THE COURSE OF STUDY
INSTRUCTIONAL DEVELOPMENT
MATERIALS DEVELOPMENT
THE COURSE OF STUDY

Figure 1.1 A model showing the vertical relationships between the course of action and the course of study.

within ecological limits, and an equitable distribution of these goods and services among a people living in a free society.

Developmental needs of societies of the Third World are both similar and dissimilar. A recent workshop on curriculum development in nonformal education organized by the Indian Adult Education Association (Mysore, October 15-18, 1976) listed Developmental needs in India as increase of incomes; health and nutritional improvement; qualitative improvement of the family condition; and participative involvement in society and polity at various levels. The ILO World Conference on Employment, Income Distribution and Social Progress, attended by 115 Third World countries, a few months earlier (June 4-17, 1976) had agreed that the goals of integrated Development must include: "minimum requirements of a family for private consumption and drinking water, sanitation, public transportation, health, educational and cultural facilities." Others have used different words and phrases but expressed the same dire needs which seem so far out of reach of most people living in the Third World. To make both a sense of urgency and of realism to prevail, some have talked of the minimum basic needs.

But while there is a core of basic human needs that must be fulfilled, each country or region does have special needs peculiar to country or region, sometimes peculiar to the community. The challenge lies in determining these needs, and validating them, in local contexts, in genuine dialogue with the people we seek to serve.

Of objectives and strategies. In the model of vertical relationships between Development and curriculum development, we have included two important concepts: objectives and strategies. We have talked of Development objectives and Development strategies; and we have talked of Educational objectives and Educational strategies. The point to be made here is that Development is a matter both of objectives and strategies; of both means and ends. Nations must not only decide what needs to be done, but also how it will be done. In other words, the quality of Development efforts in a country or society is determined not only by Developmental objectives but also by Developmental strategies.

Let us take an example from East Africa, of the two neighbouring countries of Kenya and Tanzania, to clarify the important role of strategy in Development. Both of these countries can be seen to have almost similar Developmental objectives in regard to improving the lives of their peoples in rural and urban areas. However, their Developmental strategies differ in some important ways. In Kenya, individual initiative is encouraged and rewarded; in Tanzania, it is the "Arusha Declaration" that sets the tone for political, social and economic life in the country. In Kenya, it is, perhaps, the "Ndegwe Commission Report" that sets the tone.

The "Arusha Declaration," as we perhaps know, sought to establish a code of behavior for leadership in Tanzania, including political leaders and administrators above a certain level in the government. An important part of the "Arusha Declaration" was the prohibition against two incomes by leadership in Tanzania. No one could thus amass wealth by joining partnerships, getting elected to boards of directors of private and public companies, or buying homes and farms. The strategy implications for Development in Tanzania are obvious. The "Arusha Declaration" tells us about how wealth will be produced and how it will be distributed.

In Kenya, the "Ndegwe Commission Report," while making recommendations in regard to the Kenyanization of the economy, had suggested that Kenyan leadership and bureaucracy be encouraged to participate in the economy and be allowed to acquire interests in business and industry. The argument was as follows: Political independence was meaningless unless it was accompanied by economic independence. At the time of independence, most means of production and most businesses were in the hands of expatriates, Asian and White. Kenyans had to be encouraged to participate in the economy fully, by acquiring businesses and establishing industries. But most Kenyans who had the education and experience and the potential for participating in the economy at that level were already working for the government or in parastatal organizations. Therefore, government servants and employees of parastatal organization as well as political leaders had to be allowed and indeed encouraged to participate in the economy of the country. Here then, we have a very different strategy with a very different set of implications for the general Developmental strategies; and in regard to the production and distribution of wealth in the country.

One can find further examples of objective-strategy combinations (or, to use another phrase, of the means-ends calculuses) in the area of national Development each of which will create in a particular country, a particular kind of a political culture and a social ethos; a unique set of economic and non-economic incentives; and a style of doing business and performing work native to the community.

Sector Development

National Development, as we have discussed it above, is comprehensive and all-encompassing. It should possibly touch the lives of all the members of a society, in all the various aspects—political, social, economic, educational, cultural and moral. Naturally, Development requires contributions from economists, agriculturists, manufacturers, industrialists, engineers, bridge builders, educators, communication specialists, from writers, dramatists, doctors, public health workers, family planners and many others.

To be able to work on their particular tasks and to do their specialized jobs, these people who constitute an important part of the manpower for Development, must organize themselves in different systems of special sectors. Educators must work within the education sector; agronomists and soil specialists must work within the agricultural sector; doctors, public health workers, family planners and nutritionists must work within the health sector, and so on. The Figure 1.2 that follows should help in the visualization of how Development must often be tackled as divided into different sectors; and how, in turn, different sectors contribute, ultimately, to the overall national Development.

We have talked above of how, at the national level, choices are made about general objective-strategy combinations to be pursued. At the sector level, again, specialists working in a particular Development sector, must design their own special objective-strategy combinations. These must, of course, be congruent with the general choice of means and ends made by national leadership at the national level.

Ideally, sector Development in each sector should interact with Development in other sectors. Each should build upon the other, wherever possible, and each must contribute to a common thrust. Unfortunately, this does not always happen. Each sector becomes inward-looking and insular, quite often an empire unto itself. In such a situation, Development workers in one sector may start working at cross-purposes with workers in the other sectors. That would be a prescription for disaster.

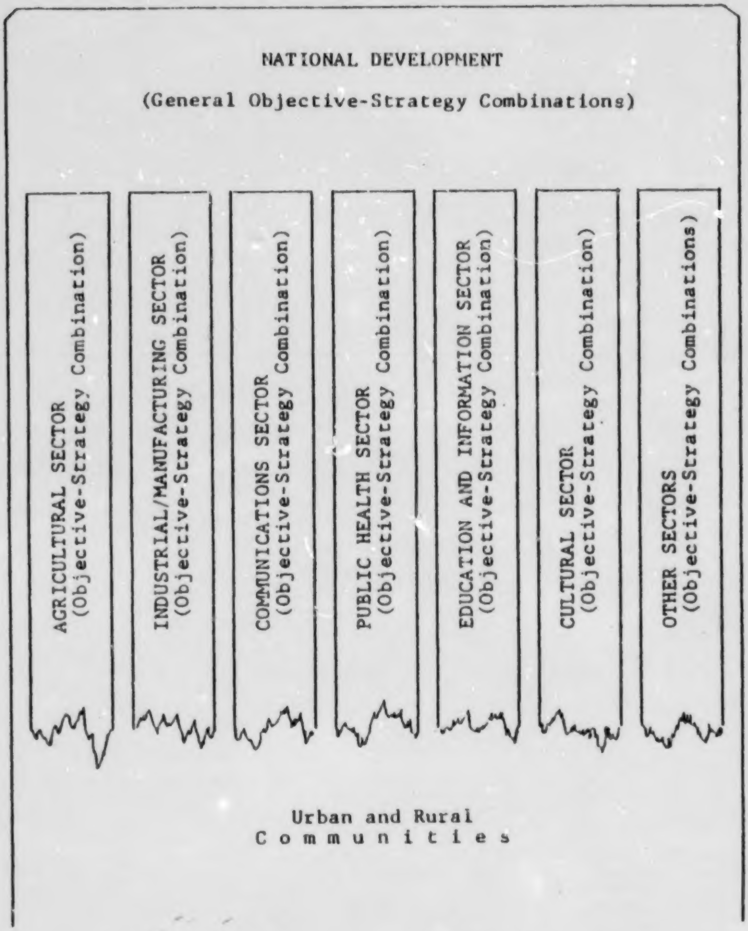

NATIONAL DEVELOPMENT
(General Objective-Strategy Combinations)
AGRICULTURAL SECTOR (Objective-Strategy Combination)
INDUSTRIAL/MANUFACTURING SECTOR (Objective-Strategy Combination)
COMMUNICATIONS SECTOR (Objective-Strategy Combination)
PUBLIC HEALTH SECTOR (Objective-Strategy Combination)
EDUCATION AND INFORMATION SECTOR (Objective-Strategy Combination)
CULTURAL SECTOR (Objective-Strategy Combination)
OTHER SECTORS (Objective-Strategy Combinations)
Urban and Rural Communities

Figure 1.2 A typical division of the overall task of national Development into Development by sector, with each sector focussing on its special tasks with its own special objective-strategy combination.

Program/Project development

In discussing program/project development, we are now talking about development with a small "d." We are now entering the universe of planning, designing and formulating.

Sector Development, as defined above, is itself quite comprehensive. Sector Development in the agricultural sector, for example, would mean many things: undertaking water development projects; distributing new agricultural information through extension; training of extension workers; establishment of agricultural credit banks; establishing distribution channels for fertilizers and new seed varieties; constructing rural feeder roads; and establishing marketing cooperatives, and needed marketing facilities.

Similarly, in the health sector, Development would mean distributing health information; establishing health clinics; promoting health research; providing pre-natal and post-natal care for mothers; teaching childcare; nutrition, etc. In other words, to implement sector Development, multiple programs must be established and numerous special projects must be designed for implementation.

It is not always easy to distinguish between a program and a project. A program could, perhaps, be seen as a more or less regular, mainstream activity, comprehensive in coverage, more flexibly bounded in terms of completion time; and, perhaps, better institutionalized in regard to the delivery system and budget allocations. A project, on the other hand, may be designed to supplement or boost an on-going program. It may, thus, be a more sharply focussed activity, with claims to innovation. It may have well-defined targets, may have a strictly defined schedule for starting and closing; and it may be a temporary system (instead of a stable, and permanent organization) which has been brought into existence simply to test an idea, or to intensify an effort.

At the level of programs and projects, we will, again, have to deal with the same calculuses of means and ends, of objective and strategy combinations. Program developers and project designers have to be careful in regard to the objective and strategy combinations designed for programs and projects so that these are congruent with the spirit of objective-strategy combinations at the sector Development level and at the national level.

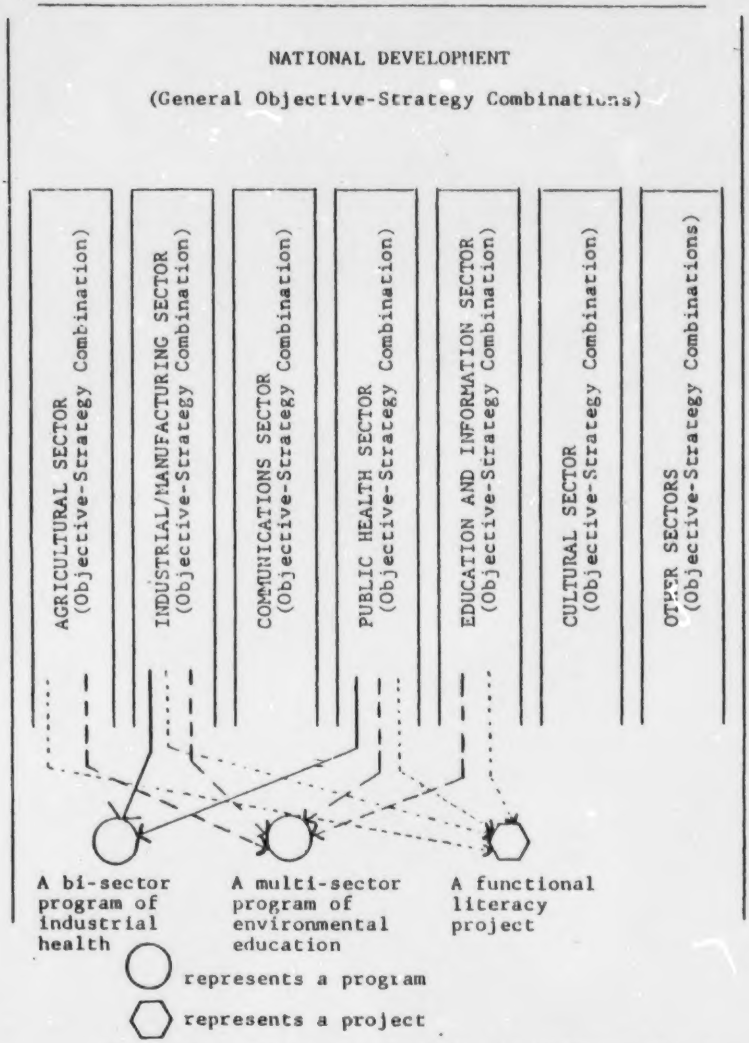
Single-sector and multi-sector programs and projects. The division of Development tasks in terms of sectors, helps Development workers to organize their work and make their specialized contributions to the Development of the nation. Thus, agriculturists can spend their time in studying agricultural problems, researching them, identifying farming needs, studying soil and weather conditions, providing storage facilities, etc. Similarly, health workers and health scientists can spend their time in investigating health problems, researching them to find remedies, building hospitals and clinics, training doctors and nurses, and so on.

But while, a governmental bureaucracy can be divided into departments and ministries, the man at the other end of the Development process should not be segmented to suit the ministerial divisions and departmental categories. The farmer in the village, the slum dweller in the shantytown, the worker in the factory or the house-wife at home needs integrated services as a whole individual or as a representative of a family. The beneficiary of the Development process wants and needs to be treated as one, whole individual. Many different Development workers each dealing with only a part of the individual, creates confusion, helplessness and, sometimes, anger. Indeed, some objectives simply cannot be fulfilled within the confines of one particular sector.

Take the examples of such programs and projects as water resources development, feeder roads construction, industrial health, environmental education, functional literacy and, of course, community Development. Figure 1.3 on the next page (which is an extension of Figure 1.2 included earlier), shows how different sectors have collaborated to produce these multi-sector projects and programs.

Curriculum development

As we go from the stage of program/project development to the process of curriculum development, we make an important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EDUCATION AND INFORMATION SECTOR (Objective-Strategy Combination)
CULTURAL SECTOR (Objective-Strategy Combination)
OTHER SECTORS (Objective-Strategy Combinations)
A bi-sector program of industrial health
A multi-sector program of environmental education
A functional literacy project
represents a program
represents a project

Figure 1.3 Showing integration of different Development sectors in multi-sector programs and projects.

conceptual leap. We now move from Development to Education. We move from the world of Development objectives to Educational objectives; from Developmental strategies to Educational strategies. (Examine the display below. See also Figure 1.1 on page 12.)

DEVELOPMENT → EDUCATION
Developmental Objectives → Educational Objectives
Developmental Strategies → Educational Strategies

Once it is realized that the Developmental effort to succeed must have an educational component, the curriculum developer is in business. Thus, the whole purpose of curriculum development in functional literacy and related nonformal education settings is to put education to work in Development.

Curriculum, in the dictionary meanings of the term, is "a course of study."[1] Curriculum development, then, is the process of designing a course of study according to a set of requirements. The essential task is, again, to develop a calculus of educational means and educational ends; to develop effective, and ideologically acceptable, combinations of educational objectives and educational strategies.

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[1] Syllabus is a concise statement of the main points of a course of study.

The basic curricular questions (we will have much more to say about these questions in a subsequent chapter on "The process of curriculum development") are:

1. What should be the content of the curriculum (that is, of the course of study)?

2. Who should be the recipients of this content? Should there be differentiations in regard to the content offered to different specialized groups within client populations, such as, rural women, urban youth, etc.?

3. What should be the general educational approaches used in teaching the curriculum or the course of study? Should it be a life-based curriculum? Should it be instructor-controlled or learner-centered? What should be the materials used? What should be the learning settings?

4. What should be the delivery system used for the delivery of curriculum? Should it be a temporary system or should it be an institutionalized or a semi-institutionalized system? What existing instructional roles should be used and what new instructional roles should be designed for the new tasks?

We might notice that questions 1 and 2 above are objectives-related questions. Questions 3 and 4 are methodological questions, related to the means of teaching the course of study.

Instructional development

It is not always easy to make a clear distinction between curriculum development and instructional development. But once the distinction between the two otherwise integrally related processes is understood, the reward is not only conceptual clarity but also practical usefulness.

Quite often, both of those who work in formal education and those who work in nonformal education seem to forget that there is yet another step between curriculum development and curriculum implementation. The step that is often missed in instructional development.

While curriculum development is carried out in regard to a large client population, instructional development is more specific to a learner group. The essential focus of instructional development is the design of an instructional (teaching-learning) strategy that teaches specific tasks, to a particular learner group or groups, in a specific learning environment. As we move from curriculum development to instructional development, there is a progressive focussing on real learner groups (not merely typical client populations), on particular learning tasks (not a large body of content and list of activities), and on a specific learning configuration (not a generalized learning environment such as rural Iran or the tribal areas of India).

Instructional development involves three processes:

1. Learner analysis
2. Task analysis, and
3. Environment analysis.

Learner analysis. Learner analysis, as the phrase suggests, analyses the learners in terms of their learning level at the point of entry into the new learning episode. What do they already know and what do they not know? It seeks to determine their learning styles and preferences in regard to the use of media and channels for receiving instruction. Are they, for instance, visually oriented or verbally oriented? Can they read pictures? Can they handle abstractions? In the area of functional literacy and nonformal education settings, learner analysis will have to go farther than the study of learning achievement, and learning styles. We will have to study learner perceptions in regard to significant innovations, about new attitudes and new ways of doing things. We will have to study the taboos held by the learner group; and the "trigger" words and "shameful" words in this cultural setting. We will have more to say about learner analysis in a later section of the monograph.

Task analysis. Learning tasks have properties that will pre-determine how some curricular content can or cannot be taught to a specified learner group. For example, one cannot teach someone to swim by simply lecturing to him on swimming. The task of teaching/learning swimming requires that both the instructor and the learner get into the water. One cannot teach metal welding to a new factory worker by merely talking or even showing pictures. To learn to drive a tractor, a farmer must actually get on a tractor and drive it. To learn to be a mid-wife, one must actually deliver a baby under the supervision of an experienced mid-wife.

Again, one cannot teach someone new attitudes and values by merely talking about them. One may, of course, dissect old values and taboos and show how untenable they are; but one may also have to emotionalize issues, dramatize them, touch not only the learners heads but also their hearts. The learning task here would demand that certain instructional approaches be followed in clear preference to some others.

Finally, human knowledge seems to have a structure of its own which cannot be flouted or neglected. One cannot teach long and difficult words first and simple ones later. One cannot teach divisions first and additions and subtractions later. One must first learn to use the saw and the hammer before learning to be a cabinet maker. In homecrafts, one must first learn to knit or weave simpler designs before learning to be arty-crafty. Experienced teachers and scholars have suggested that all subjects (sociology, psychology, civics, agriculture, communication, curriculum development) can be seen to have their own inner structures and their own generative principles. They suggest that the subject matter in each of these disciplines can be organized in layers and sequences which must be respected while teaching these disciplines.

What we have said above is that learning tasks differ in regard to whether these are cognitive, affective/attitudinal or related to skills. In each case, there is a structure inherent in the content to be taught. We must try to determine that structure and honor it, in designing our teaching/learning strategies.

Learning environment analysis. Finally, as part of the instructional development process, we must make an analysis of the environment in which learning will take place. Environment is a difficult concept to define and, sometimes, instructional developers have been satisfied with analyzing the immediate environment of the particular classroom or of the particular group-setting in which learning takes place. Is the environment physically comfortable and pleasing? Is it psychologically supportive or highly competitive and, therefore, inhibitive of learning?

Other educators, especially those working in out-of-school settings, have interpreted environment more broadly. They include not only the immediate environment of the classroom or the group-setting but also the environment of the community and, indeed, the cultural ethos. They like to ask questions about the social rewards or political punishment that might come with learning. Strange as it may seem, learning has cost people, lives, and limbs. Nonformal educators like to examine the economic incentives and structural reinforcements that may be available for practicing what will be learned; and, finally, how the cultural ethos regards learning *per se*.

Materials development

Instructional development has to be packaged in the form of instructional materials as shown in Figure 1.1. In the Western world, instructional developers have sometimes tried full packaging of some instruction. This has made learning self-instructional; that is, the learner can learn by using instructional materials without a teacher being present. Some instructional developers have packaged most of the instruction in the form of materials, and then depended on the assistance of untrained monitors. In the Third World, the learning environment being what it is, we cannot depend upon full packaging of instruction. The needed technological base does not exist; and, indeed, both teachers and learners would find highly technological systems unacceptable. What we would need, however, is a variety of instructional materials which can be used by the teacher or group leader to implement the curriculum.

These materials in the field of functional literacy would be primers, graded books, follow-up reading materials, news sheets and rural newspapers; drill cards, flashcards, display boards, posters, illustrated charts, filmstrips, slide sets, films, role playing, drama, games and folk media. These materials will be produced at various levels of the system: films may be produced at the national level; primers and newspapers may be produced at the provincial level; news sheets and bulletins may be produced at the district level; and dramatizations at the local level. Some of these materials may be produced by the learners themselves. Though, it must be said that learner-made instructional materials look attractive in theory but have seldom materialized.

This completes the presentation and elaboration of the elements in our model of vertical relationships between Development and curriculum development; between the course of action and the course of study. We now move to the related task of presenting and elaborating a model of horizontal linkages between program curriculum and other concurrent curricula.

Horizontal linkages in the curriculum development process

We live in a multi-curricular world. At home, our parents are teaching us a curriculum; in the street, our peers; in the school, our teachers. There is the media curriculum taught to us by the radio and TV. Political leaders, business houses, religious leaders, advertisers all have curricular plans for us. Some teach us humanism, some Ujaama, some Islamic socialism; some offer us safe conduct to heaven, some teach us instant satisfactions. There are "apparent curricula" and there are "the hidden curricula" of our institutions.

As those working on a special program or project of functional literacy or nonformal education, we may be one more voice among many voices; ours might be one more curriculum among many. Hopefully, the curriculum we offer would be systematically derived from agreed upon national agendas; would be better focussed on a particular group or groups; and, better taught. It should not be forgotten, however, that our curriculum may be one of the curricula to which our client group is being subjected. Strong or weak, active or dormant, existing or potential linkages may exist which must be taken into consideration. (See Figure 1.4 on the next page.)

Curriculum development as a techno-political process. Having examined the curriculum development process within its verticle and horizontal linkages, it should be obvious that curriculum development is not merely a technical process that educators and instructional developers engage in, using the best available rational and technical skills. It is, at the same time, a political process. Curriculum development is for something. What should be taught? What knowledge should be shared with people and what should be hidden from them? What new attitudes should be taught and what skills should be fully and more widely

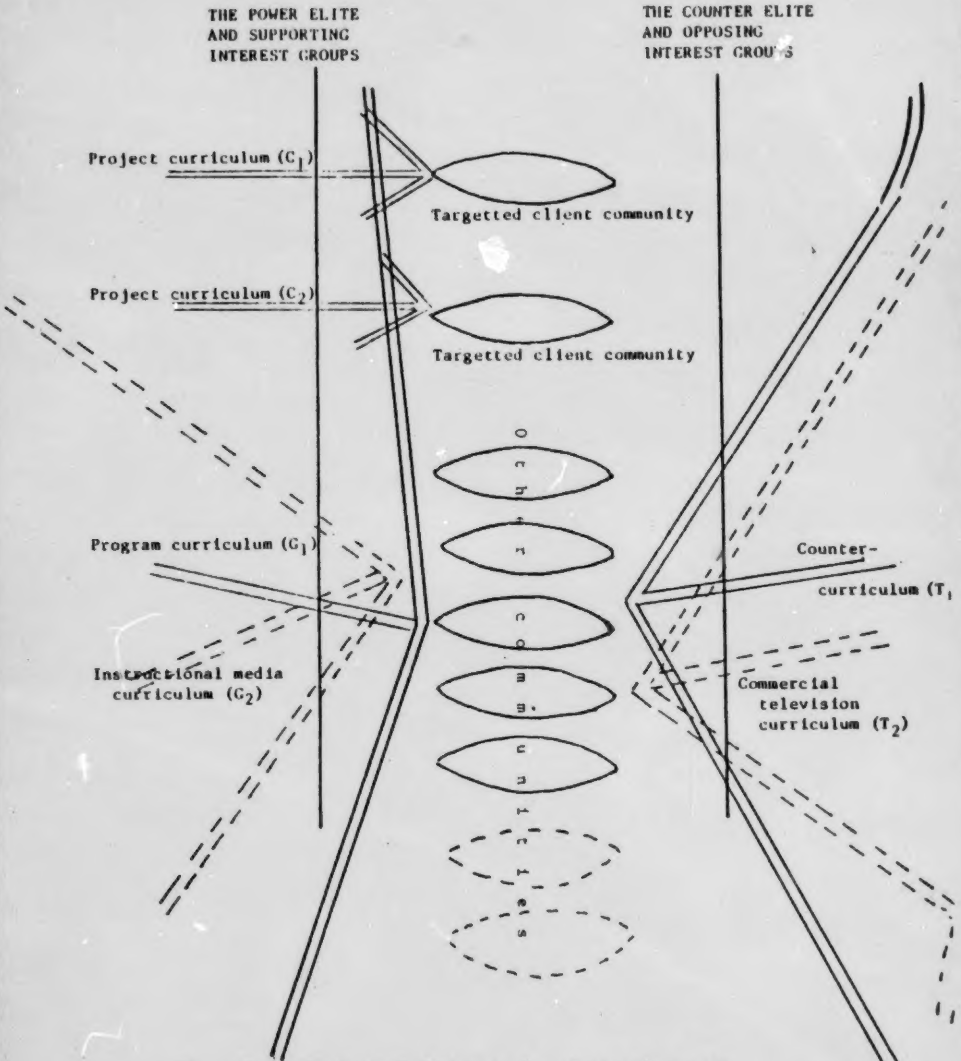
THE POWER ELITE
AND SUPPORTING
INTEREST GROUPS
THE COUNTER ELITE
AND OPPOSING
INTEREST GROUPS
Project curriculum (C1)
Targetted client community
Project curriculum (C2)
Targetted client community
Other communities
Program curriculum (G1)
Instructional media
curriculum (G2)
Counter-
curriculum (T1
Commercial
television
curriculum (T2)

Figure 1.4 Horizontal linkages of project and program curricula with concurrent curricula.

shared? These are all political questions. Curriculum development often means a new distribution of educational goods. These educational goods are convertible into social, economic and power goods. That is, what politics is all about.

One right curriculum or curriculum alternatives. If curriculum development is, at least in part, a political process, then, there cannot be one right curriculum for a people in a particular region at a particular time in history. Different political orientations would suggest different curricula for the same set of conditions. There is even technical-professional variance involved in curriculum development processes. That is, those who do agree politically, may yet develop different curricula for the same group of people, under the same set of conditions. This is so because there are instructional alternatives, more than one way of teaching the same content.

Summary

This chapter places the process of curriculum development in the larger Developmental context. The vertical linkages of curriculum development are traced, on the one hand, to national Development, sector Development, and program and project development; and, on the other hand, to instructional development and materials development. Each state is shown to involve the same calculus of means and ends, of objective and strategy. At the stages of national

Development, sector Development and program and project development, we deal with Developmental objectives and Developmental strategies. At the stages of curriculum development, instructional development and materials development, we are dealing with Educational objectives and Educational strategies.

The curriculum development process in the context of a program or a project is also shown to have horizontal linkages with various concurrent curricula competing for attention and influence.

Things to do or think about

1. What are some of the Developmental objectives of your country which, if successfully achieved, will change the face of the nation?

2. What are the most significant Development strategies being pursued by Development planners in your country?

3. Compare and contrast the Developmental strategies thought to be followed in your country with the Developmental strategies being followed in a neighboring country.

4. What general role is nonformal, out-of-school education supposed to play in the Development efforts of your country?

5. Analyze your particular project of functional literacy, of nonformal education or of community development as an "educational component" of a specified Develop-

mental effort.

6. Did your program or project go through a systematic process of curriculum development? What did this process consist of? What are some of the documents or materials which can be shown to be the products resulting from the process of curriculum development?

7. In your particular work, do you do any (a) curriculum development, (b) instructional development, or (c) materials development? Please explain what you do and how.

8. Can you assign your project to one particular Development sector or is it a multi-sector project? Explain.

9. Can you name a program, a project or an agency which is offering a collaborating curriculum or a competitive curriculum to the client groups within your project or program area?

CHAPTER II

FUNCTIONAL LITERACY AND NONFORMAL EDUCATION AS DEVELOPMENT STRATEGIES

This is a book on the subject of curriculum development for functional literacy and nonformal education. In Chapter I, we have put the general process of curriculum development in out-of-school settings in the Developmental context. However, before going on to the subject of curriculum development models, strategies of instructional development and methods of materials design, we should talk of the concepts of functional literacy and nonformal education themselves.

What is functional literacy?

The phrase "functional literacy" was first used to denote a level of literacy which would enable the new literate to function effectively in his or her own society. The World Conference of Education Ministers held in Tehran in 1965; and the Experimental World Functional Literacy Programme that was later promulgated by UNESCO, gave functional literacy new meanings. It was to be work-oriented literacy, yet comprehensive enough to teach more than economic skills; it was to be selective and intensive, yet its benefits were to filter to the whole community. A UNESCO document, published in the very early stages of the program defined functional literacy thus:

> Briefly stated, the essential elements of the new approach to literacy are the following: (a) literacy programs should be incorporated into and correlated with economic and social development plans; (b) the eradication of illiteracy should start within the categories of population which are highly motivated and which need literacy for their own and country's benefit; (c) literacy programs should preferably be linked with economic priorities and carried out in areas undergoing rapid economic expansion; (d) literacy programs must impart not only reading and writing, but also professional and technical knowledge, thereby leading to a fuller participation of adults in economic and civic life; (e) literacy must be an integral part of the over-all education plan and educational system of each country; (f) the financial needs of functional literacy should be met out of various resources, public and private, as well as provided for in economic investments; (g) the literacy programs of this new kind should aid in achieving main economic objectives, i.e., the increase in labor productivity, food production, industrialization, social and professional mobility, creation of new manpower, diversification of the economy.[1]

This definition of functional literacy makes some clear and definite program and instructional demands: demands about objectives and about strategies. Literacy work is proposed to be undertaken within a Developmental context (see (a) above). It is a selective approach (see (b) above). It is supposed to be directly linked with economic activities (see (c), (d) and (g) above). While there must be an economic focus, the instructional objectives should be comprehensive to include teaching of skills that help in a fuller participation in civic life (see (d) above). Finally, it should be part of an over-all educational plan so that the new literate becomes an active member of the new learning society (see (e) above).

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[1] An Asian Model of Educational Development: (Perspectives for 1965-80); UNESCO, Paris, 1966, Page 97.

Functional literacy and integration

The teaching of literacy, tied to the teaching of an economic skill, has been central to the functional literacy approach promoted by UNESCO. The emphasis on the teaching of an economic skill has led to this approach being characterized also as work-oriented literacy. The emphasis on integration has been equally heavy. It has been suggested, sometimes, that to be truly effective in the teaching of functional literacy, the integration of literacy and the economic skill should be so organic that the learner, in the act of learning, should not be aware of whether he or she is learning literacy or an economic skill. This aspiration has some important implications for the organization of instruction and for the kinds of instructional materials that will be designed for a functional literacy program, including, of course, the designing of the first primers.

Let us begin with a discussion of the forms and meanings of integration, a somewhat difficult concept, which has created confusion not only in minds of literacy workers but has also confounded their programs and projects in their practical aspects.

Meaning of integration. In its literal meanings, integration simply is the bringing and fitting together of parts into a whole; or to secure maximum unity in the performance of functions.

In the area of functional literacy and Development, three different situations have been characterized by workers as integration, when it is, perhaps, not integration:

(a) Integration confused with addition. A course director of co-operative education during the course of his training invites lecturers from the agricultural, health and water development departments, and calls this integration.

(b) Integration confused with parallel streams of instructions. Two streams of instruction, one of literacy teaching and another of technical training run parallel and enroll the same group of people. Once in a while there are cross-references made to the work in the other stream of instruction.

(c) Integration is confused with team teaching. A group of specialists comes to lecture to the same group of learners in the same setting and in close proximity of time.

Integration, in its acceptable meanings, can be considered to take place in the following settings:

(i) Integrated development planning. Developmental planners, at various levels, get together and engage in a planning process which considers the total needs of the communities; and then develop plans on various Development sectors in such a way that planning in one sector reinforces planning in the other, and each builds on the work and successes of the other.

(ii) Integrated delivery of services at the frontline. To ensure that the recipient of services in the community is not segmented, the delivery of services at that point is integrated into one person. In India, it was the VLW (Village Level Worker). In other countries, this role has sometimes been played by the community development assistant.

(iii) Integrated curriculum and curriculum materials. The curriculum is seen not in terms of subjects and specializations but as one organic whole. Learners are not attending health classes and agricultural periods and literacy classes. They are learning. In a functional literacy class, for instance, the materials should be such that learners are not aware at one particular time as to what they might be studying.

Functional literacy: bread, but not by bread alone

Another point equally central to the concept of functional literacy is its comprehensive nature. It is comprehensive in the sense that it is really a program of full Development. Naturally, it looks at the total man even though it builds its program on the bedrock of economic motivations. It does include nutrition education, health and family life education, cooperative education, civic and political education.

Both of these central aspects of the concept of functional literacy—integration and comprehensiveness—are presented in the petalgraph included on the next page. As can be seen, some major economic activity is at the center of the functional literacy program. This could be cotton growing in one region of a country, maize growing in another and cattle-raising in another. It should not mean that in one functional literacy project there is room for just one economic activity. There should be one major economic activity but the project could relate to other secondary or supplementary economic activities at the same time. Again, note the relationships between the 3R's and the economic activity at the core of the petalgraph. Learning of reading, writing and arithmetic should take place, according to the concept of functional literacy, as an organic part of the major economic activity. The teams used in the primer, for instance, will have to be based on the major economic activity.

But there is more in a functional literacy project than the 3R's and the teaching of skills in a major economic activity. The program is supposed to be whole and comprehensive. It is supposed to include nutrition and childcare, better housing, health and hygiene, kitchen gardening, cooperative education, cattle-farming, citizenship and political education. To teach all these various elements, we will not have to write primers on each of these areas.

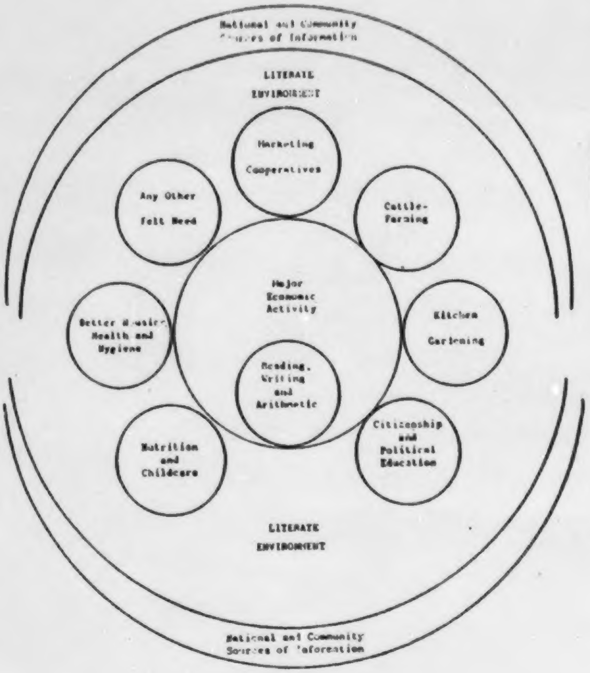
National and Community
Sources of Information
LITERATE
ENVIRONMENT
Marketing
Cooperatives
Any Other
Felt Need
Cattle-
Farming
Major
Economic
Activity
Better Housing
Health and
Hygiene
Kitchen
Gardening
Reading,
Writing
and
Arithmetic
Nutrition
and
Childcare
Citizenship
and
Political
Education
LITERATE
ENVIRONMENT
National and Community
Sources of Information

Figure 2.1 A graphic presentation of the objective and strategy calculus of functional literacy.

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There will be only one primer (or one primer series) that is built around the major economic theme. Other material will have to be taught by using non-print media while the learners are still illiterate or semi-literate; and printed leaflets and books as well when they have become literate.

UNESCO's second thoughts on functional literacy. After a decade of orthodoxy about the central role of economic motivations, UNESCO seems to have veered to the position that an economic activity, perhaps, need not always be at the core of a functional literacy program. They are now talking of cultural approaches to be equally significant. The cultural approach today has become the approach of cultural transformation. Thus everyone today is talking of literacy for conscientization. The Declaration of Persepolis on Literacy, easily the most important statement of the present decade on the purposes and strategies for literacy in the developing world:

> Considered literacy to be not just the process of learning the skills of reading, writing and arithmetic, but a contribution to the liberation of man and to his full development. Thus conceived, literacy creates the conditions for the acquisition of a critical consciousness of the contradictions of society in which man lives and of its aims; it also stimulates initiative and his participation in the creation of projects capable of acting upon the world, of transforming it, and of defining the aims of an authentic human development. It should open the way to a mastery of techniques and human relations. Literacy is not an end in itself. It is a fundamental human right.

The Declaration of Persepolis called literacy an essential instrument for all social change, though not the only means of liberation of peoples. It went on to list what the most favorable structures would be for the accomplishment of literacy programs:

- Those that, from the political point of view, tend to bring about the effective participation of every citizen in decision-making at all levels of social life: in economics, politics and culture.

- Those that, from the economic point of view, aim at an endogenous and harmonious development of society, and not at blind and dependent growth.

- Those that, from the social point of view, do not result in making education a class privilege and a means of reproducing established hierarchies and orders.

- Those that, from the professional point of view, provide communities with genuine control over the technologies they wish to use.

- Those that, from the institutional point of view, favor a concerted approach and permanent co-operation among the authorities responsible for basic services (agriculture, welfare, health, family planning, etc.).

One should note the definite shift away from a preoccupation with work-orientation and economic skills, though the economic needs of the community to whom literacy is offered are not neglected. Literacy becomes a political act;

participation becomes the essential condition. Thus to conduct a program of functional literacy, one would not have to focus on the economic skills; conscientization could move into the inner circle of the petalgraph; and the 3R's could be taught because of and through political themes of liberation from the oppressive realities surrounding the illiterate.

Functional literacy and social change

The concept of functional literacy makes important assumptions and provisions for the transfer of education and innovation from project clients to the community in general. The group of learners covered in the project is supposed to influence others in the community who have not been directly involved in literacy programs. Those covered in the project are supposed to generate processes—economic, social and cultural—that would lead to the collective good. Again, "graduates" of the functional literacy program are supposed to become independent learners in a learning society. These relationships are shown graphically in Figure 2.2 on the next page.

Three different streams of instruction are shown: the 3R's stream, the skills-learning stream and the general educational stream, using electronic and folk media. All the streams of instruction serve both the primary clients of the functional literacy program and the secondary groups in the community who, though not formally enrolled in literacy

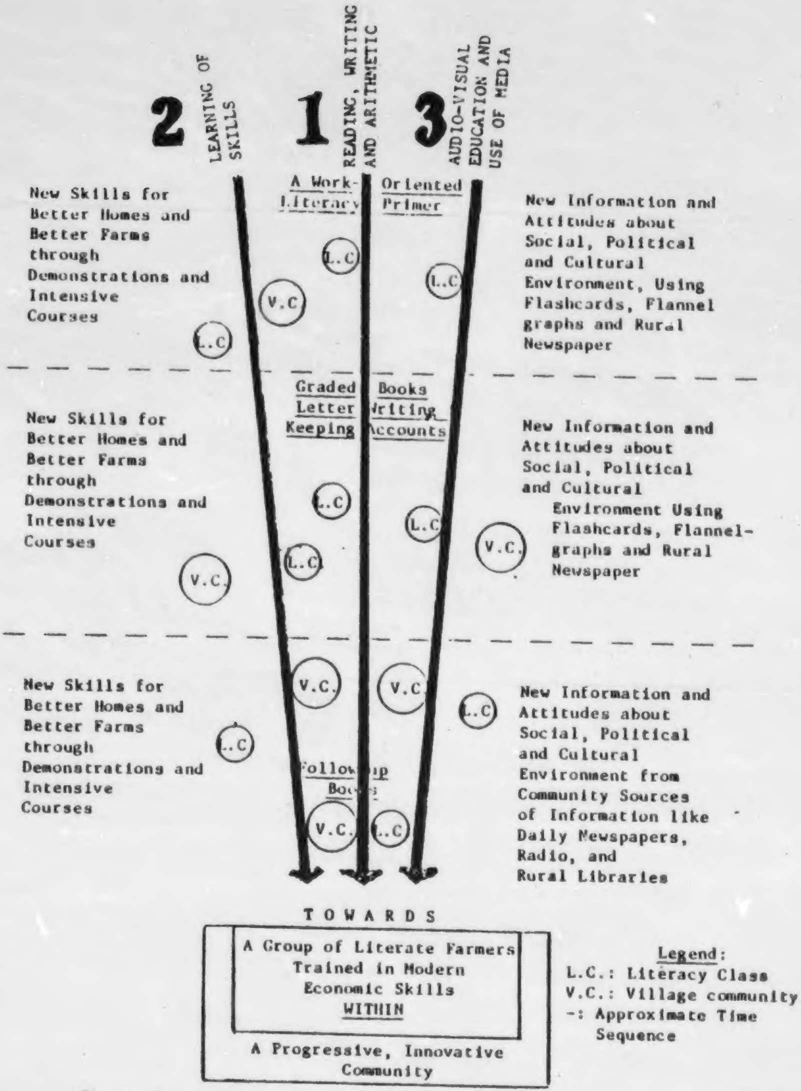
2
LEARNING OF SKILLS
1
READING, WRITING AND ARITHMETIC
3
AUDIO-VISUAL EDUCATION AND USE OF MEDIA
A Work-Oriented Literacy Primer
New Skills for Better Homes and Better Farms through Demonstrations and Intensive Courses
New Information and Attitudes about Social, Political and Cultural Environment, Using Flashcards, Flannel graphs and Rural Newspaper
L.C
V.C
L.C
L.C
Graded Books Letter Writing Keeping Accounts
New Skills for Better Homes and Better Farms through Demonstrations and Intensive Courses
New Information and Attitudes about Social, Political and Cultural Environment Using Flashcards, Flannel-graphs and Rural Newspaper
L.C
L.C
V.C.
L.C
V.C.
V.C.
V.C
L.C
New Skills for Better Homes and Better Farms through Demonstrations and Intensive Courses
New Information and Attitudes about Social, Political and Cultural Environment from Community Sources of Information like Daily Newspapers, Radio, and Rural Libraries
L.C
Follow up Books
V.C.
L.C
TOWARDS
A Group of Literate Farmers Trained in Modern Economic Skills WITHIN
A Progressive, Innovative Community
Legend:
L.C.: Literacy Class
V.C.: Village community
-: Approximate Time Sequence

Figure 2.2 A presentation of three converging streams of instruction covering both participants in literacy classes as well as the general village community.

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classes, are still participants in the program: they attend some skill demonstrations; they listen to the radio programs and maybe attend radio forum groups; and they read the special village newspaper and read the follow-up books prepared by the project and published for new literates.

The preceding discussion of the theory and history of the concept of functional literacy should have clarified for us as to what is a functional literacy project and what might be something else. It should have given us some ideas in regard to choices of objectives and of instructional strategies in designing work-oriented literacy programs or for undertaking programs of literacy for conscientization.

What is nonformal education?

Professor Russell Kleis of the Michigan State University in a paper written for the Program of Studies in Non-Formal Education of the Michigan State University proposed this definition of nonformal education:

> Non-formal education is any intentional and systematic enterprise (usually outside of traditional schooling) in which content, media, time units, admission criteria, staff, facilities and other system components are selected and/or adapted for particular students, populations or situations in order to maximize attainment of the learning mission and minimize maintenance constraints of the system.

He then goes on to provide 13 different characteristics of nonformal education (NFE) as follows:

1. NFE is not likely to be identified as "education,"
2. NFE is usually concerned with immediate and practical missions,
3. It usually occurs outside of schools (at learning sites),
4. Proof of knowledge is more likely to be by performand than by certificates,
5. It usually does not involve highly organized content, staff or structure,
6. It usually involves voluntary participation,
7. It usually is a part-time activity of participants,
8. Instruction is seldom graded and sequential,
9. It is usually less costly than formal education,
10. It usually does not involve customary admission criteria,
11. Selection of mentors is likely to be based more upon demonstrated ability than on credentials; and voluntary leaders are frequently involved,
12. It is not restricted to any particular organizational, curricular or personnel classification; and it has great promise for renewing and expanding any of them,
13. It has potential for multiplier effects, economy and efficiency because of its openness to utilize appropriate personnel, media and other elements which may be available in a given situation without

> concern for externally imposed, often irrelevant and usually expensive criteria and restraints.

The preceding is a researcher's definition and analysis of the concept of nonformal education. We may also look at a practitioner's definition. The 28th All India Adult Education Conference, held in Jabalpur in October 1975, defined nonformal education to comprise "any organised educational or training activity for school dropouts, for illiterate rural and urban adults, for youth, for women or for industrial workers aimed at improving their employment or income earning potential, or giving them general education which in some cases, as desired, may help them re-enter the formal education streams." Non-formal education programs, according to the same report, have to be "learner-centered, need-based, open-ended and flexible in training and methods and composed of an infinite variety of curricula and reading materials."

Before undertaking an analysis of nonformal education in terms of objectives and strategies involved in its planning and implementation, we should tackle another practical issue and ask the question: How does nonformal education differ from:

1. life-long education,
2. community development,
3. rural development, and urban development,
4. adult education,

5. agricultural extension,
6. health extension,
7. family planning and family education,
8. literacy, especially functional literacy,
9. communication, and
10. conscientization?

Some, not without good reason, would ask the same question about youth programs and military service.

One could reproduce here the typical definitions for each of the above program areas and show how the various definitions do overlap with each other. In Figure 2.3 on the next page, we have attempted a geometrization of mutual relationships between these program areas. We look at life-long education, adult education and nonformal education as names for activities that are almost congruent. The programs generally labelled as functional literacy, communication and conscientization form part of most nonformal education programs. We look at health extension, family planning, youth programs, agricultural education and military service as activities that do have an educational component but which are not all educational. They additionally involve provision of services and material and technological inputs. However, the educational component of these programs can be seen as nonformal education. Together these programs could be viewed as community development programs or urban and rural development programs

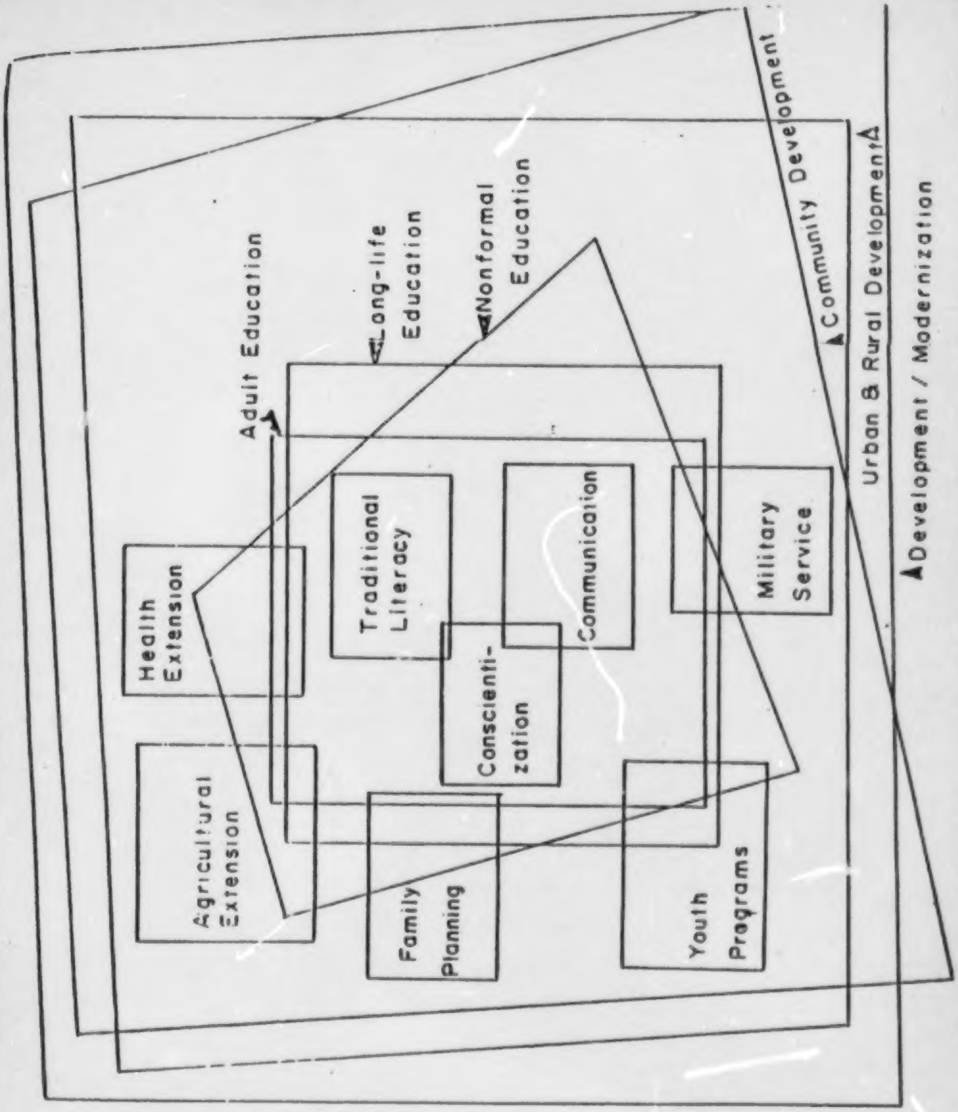
Community Development
Urban & Rural Development
Development / Modernization
Adult Education
Long-life Education
Nonformal Education
Health Extension
Agricultural Extension
Traditional Literacy
Communication
Conscientization
Military Service
Family Planning
Youth Programs

Figure 2.3 A geometrization of the relationships between nonformal education and other out-of-school educational and communicational programs.

which together add up to the total effort for development and modernization.

We only need to make the point here that nonformal education is thus a broad category which would cover adult education, women education, youth education, consumer education, and, for that matter, functional literacy—*all these* being special cases of nonformal education.

Objective-strategy analysis of nonformal education. A review of the 13 characteristics of nonformal education listed by Professor Russell Kleis in the preceding should indicate to us that nonformal education implies a pretty distinct objective-strategy combination. The character of this combination comes in sharp relief when placed by the objective-strategy mix in formal schooling.

The objectives of nonformal education are pragmatic, practical and immediate. Nonformal education relates to the lives of people as it is being lived today, dealing with problems they are already in the midst of, inventing solutions they can do something with. By temper, nonformal education is often radical, humanist and egalitarian. At its best, its methods are those of an activist; it is open-ended, authentic, and participative.

Summary

The definition of the functional literacy concept, as promoted by UNESCO through its Experimental World Functional

Literacy Program is presented. Functional literacy is then analyzed as a special objective and strategy calculus with its direct link with Development; its emphasis on economic motivations; and its integrated instructional strategies. A definition of nonformal education is also included; and the objective-strategy mix in nonformal education is clarified as well.

Things to do or think about

1. Would you characterize your program/project as a program/project of functional litearcy as defined by UNESCO?

2. Look at the petalgraph of functional literacy included on page 42. Does your literacy program/project fit this picture? Can you make a drawing that will describe your program/project more appropriately?

3. Is your program/project currently reaching only those enrolled in the program/project or is it reaching others in the community as well? If you are reaching other groups in the community, not formally enrolled, how are you doing it?

4. How realistic would it be for you today in your country to use the language of the Declaration of Persepolis in designing your literacy program/project? Could you design a program that seeks to work on the bahalf of the oppressed? Or do you already count yourself as one of those who are working on behalf of the oppressed?

CHAPTER III

THE PROCESS OF CURRICULUM DEVELOPMENT

The process of curriculum development can be discussed as a generic (general) process covering both formal and nonformal education systems. But the world of formal education *is* different from the world of nonformal education. The same general model of curriculum development, when applied to one system rather than the other, has to be adapted to suit the parameters of the system chosen—formal or nonformal. A model of curriculum development for nonformal education thus will turn out to be a second-generation model of the general model of curriculum development. In this chapter, we are discussing, specifically, the process of curriculum development in *nonformal* education and hence we are dealing witha second-generation, derived model of curriculum development.

In Chapter II, when the definitions of functional literacy and nonformal education were discussed, functional literacy was shown to be a special case of nonformal education. In this monograph, we are dealing with curriculum development for functional literacy and nonformal education; but our prior interest is in functional literacy. In presenting our material in this chapter, and in the chapters that follow, we will be taking examples from the world of the functional literacy worker; we will relate to his concerns about primers, literacy classes and committees, literacy teachers and supervisors, teacher guides, follow-up books, and many others.

Conversely, while our examples will come from the world of the functional literacy worker, the general principles we state and the models we present are, of course, applicable to all programs of nonformal education, such as, agricultural extension, cooperative education and adult education in general; and even to education within formal settings of the school or the university.

A model of curriculum development in nonformal education, especially, functional literacy

Once again, in proposing a model of curriculum development in nonformal education, we are dealing with the essential calculus of means and ends; we are looking for preferred combinations of educational objectives and educational strategies. The process can be examined through a model, included in Figure 3.1 on the next page.

The core of the curriculum development model consists of two essential elements: objectives and strategies. Another element added to the core of the model is evaluation. This is a feedback mechanism that will inform curriculum developers on the effectiveness of their choices of objectives and strategies.

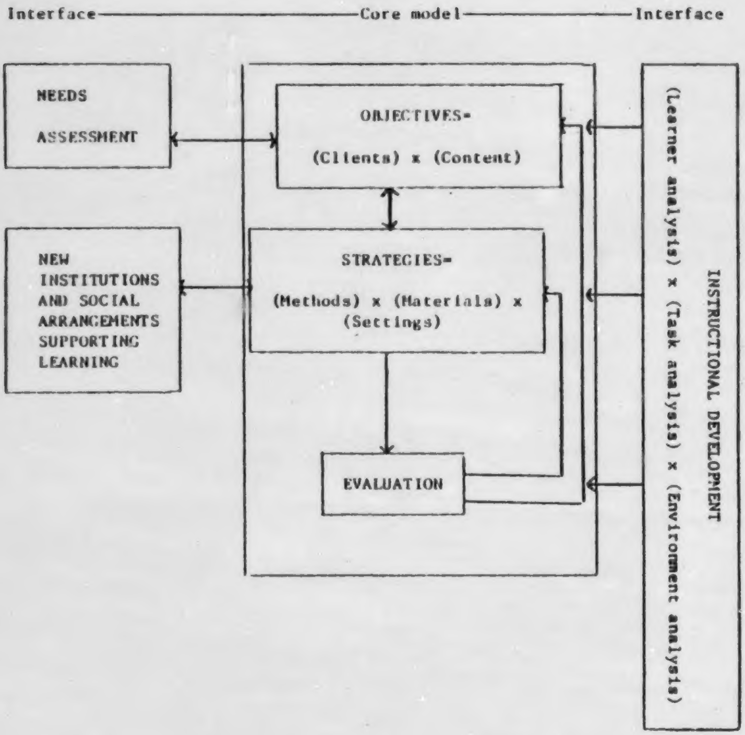
Interface
Core model
Interface
NEEDS ASSESSMENT
NEW INSTITUTIONS AND SOCIAL ARRANGEMENTS SUPPORTING LEARNING
OBJECTIVES=
(Clients) x (Content)
STRATEGIES=
(Methods) x (Materials) x (Settings)
EVALUATION
INSTRUCTIONAL DEVELOPMENT
(Learner analysis) x (Task analysis) x (Environment analysis)

Figure 3.1 The core/interface model of curriculum development in nonformal education.

The model, then, shows two different interfaces with the core model: interfaces with processes which are not essential parts of the core model, but which must supplement and complement the core model for curriculum development to succeed. For example, some sort of needs assessment must take place for an appropriate elaboration of objectives. Again, for educational strategies to be actualized, curriculum developers must pay attention to the design of new instructional roles and, perhaps, new organizational arrangements so that instruction and materials of instruction can be delivered to learners; and learning can be rewarded and reinforced after it has taken place.

On the other hand, the core model interfaces with the process of instructional development, the process that maximizes learning through concurrent analyses of the learning task, the learner, and the environment in which learning will take place. The products of instructional development are instructional materials, and learning protocols.

Many of the questions are common to the two processes of "curriculum development" and "instructional development." As we have indicated in an earlier chapter, curriculum development is more general, while instructional development is more learner-specific, task-specific and situation-specific. As we get closer and closer to our client groups, and as we get closer and closer to the actual process of instruction, we are transformed from curriculum developers into instructional developers. (See Figure 3.2 below.)

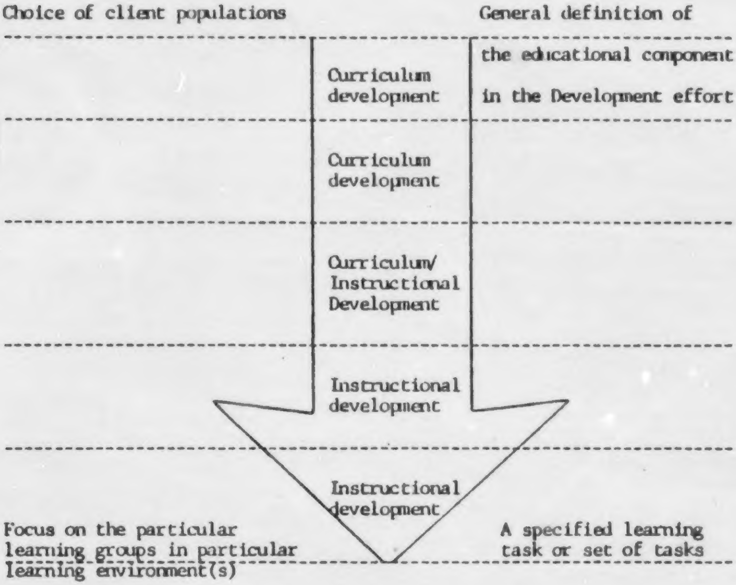
Choice of client populations
General definition of
the educational component
in the Development effort
Curriculum development
Curriculum development
Curriculum/ Instructional Development
Instructional development
Instructional development
Focus on the particular learning groups in particular learning environment(s)
A specified learning task or set of tasks

Figure 3.2 The relationship between curriculum development and instructional development.

We shall discuss the process of instructional development more fully in relation to programs and projects of functional literacy and literacy teacher training in later chapters. At this stage, it should be sufficient to understand the relationship between curriculum development and instructional development in general terms. The problems of needs assessment and of delivery systems (new institutions and social arrangements for delivering instruction and for supporting learning) will also be discussed later in separate chapters. In the following, we shall confine our comments to curriculum objectives, curriculum strategies and curriculum evaluation.

Curriculum objectives

In the vocabulary of Development and education, we come across the following words quite frequently: purpose, intent, intention, aim, goal, design, end, object, and objective. Quite often curriculum developers get confused about the meanings of these words. The following paragraph taken fromthe *Funk and Wagnalls Encyclopedic College Dictionary* (1968, page 1095) will be found most helpful:

> *Purpose*, *intent*, *intention*, *aim*, *goal*, *design*, *end*, *object*, and *objective* describe what one hopes to effect for a plan or course of action. *Purpose* is perhaps the strongest of these words; it implies a fixed determination and a clear exercise of the will: his *purpose* in coming was to crush the revolt. *Intent* is like *purpose*, but shows somewhat less determination; it is now largely restricted to legal usage: assault with deadly *intent*. *Intention* is even weaker, denoting chiefly what one has decided on: I have no *intention* of reading his novel. *Aim* and *goal* are metaphors from archery and racing; they agree in connoting that toward which one's efforts are directed: his *goal* was to be the head of his class. *Design* stresses the careful planning and arranging of details that are often required for the successful achievement of a *purpose*; *end* refers to the final step or stage of a *design*. *Object* and *objective* are sometimes interchanged with *end*, but they are also used to indicate a secondary *purpose*, or an intermediate step in a *design*; *objective* is the more concrete word, and is frequently used in military or quasi-military contexts: capture of the fort was the army's next *objective*.

In our discussion of curriculum development, we have preferred to use the word objective simply because this is the word preferred by students and scholars in the fields of curriculum development and instructional development.

Objectives in nonformal education and functional literacy programs arise from the clients to be served and from the content they are to be assisted in learning. Clients of a program may be defined in terms of such categories as cotton growers in Tanzania; weaker sections of the society in India; women, and rural and urban youth. Since educational objectives must require education, it would mean some educational content, such as, information, values or skills. Some educational content, taught to some learners, alone, can actualize educational objectives in regard to an individual or a community.

Objectives: cognitive, affective, and psychomotor. Educators have learned to differentiate between three types of instructional objectives: cognitive, affective (or attitudinal) and psychomotor (or those related to skills).

Cognitive instructional objectives deal with information and knowledge, application of knowledge, analysis and synthesis and evaluation of facts and arguments. The following display describes the various types of instructional objectives in the cognitive domain:

INSTRUCTIONAL OBJECTIVES IN THE COGNITIVE DOMAIN[1]

- 1.00 Knowledge
  - 1.10 *Knowledge of specifics*
    - 1.11 Knowledge of terminology
    - 1.12 Knowledge of specific facts
  - 1.20 *Knowledge of ways and means of dealing with specifics*
    - 1.21 Knowledge of conventions
    - 1.22 Knowledge of sequences
    - 1.23 Knowledge of classifications and categories
    - 1.24 Knowledge of criteria
    - 1.25 Knowledge of methodology
  - 1.30 *Knowledge of the universals and abstractions in a field*
    - 1.31 Knowledge of principles and generalizations
    - 1.32 Knowledge of theories and structures
- 2.00 Comprehension
  - 2.10 *Translation*
  - 2.20 *Interpretation*
  - 2.30 *Extrapolation*
- 3.00 Application
- 4.00 Analysis
  - 4.10 *Analysis of elements*
  - 4.20 *Analysis of relationships*
  - 4.30 *Analysis of organisational principles*
- 5.00 Synthesis
  - 5.10 *Production of a unique communication*
  - 5.20 *Production of a plan, or proposed set of operations*
  - 5.30 *Derivation of a set of abstract relations*
- 6.00 Evaluation
  - 6.10 *Judgements in terms of internal evidence*
  - 6.20 *Judgements in terms of external criteria*

It is important for the curriculum developer to understand the differences between the various categories of cognitive learning. It is important that we know what we are teaching, and what we are testing our learners for.

Affective instructional objectives deal with attitudes and values. The following display outlines the categories of affective learning:

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[1] Benjamin S. Bloom (et al.), Taxonomy of educational objectives—Handbook I: Cognitive domain. New York: McKay, 1956.

INSTRUCTIONAL OBJECTIVES IN THE AFFECTIVE DOMAIN[1]

- 1.00 Receiving (attending)
  - 1.1 *Awareness*
  - 1.2 *Willingness to receive*
  - 1.3 *Controlled or selected attention*
- 2.00 Responding
  - 2.1 *Acquiescence in responding*
  - 2.2 *Willingness to respond*
  - 2.3 *Satisfaction in response*
- 3.00 Valuing
  - 3.1 *Acceptance of a value*
  - 3.2 *Preference for a value*
  - 3.3 *Commitment*
- 4.00 Organization
  - 4.1 *Conceptualizing a value*
  - 4.2 *Organizing a value system*
- 5.00 Characterization by a value or value complex
  - 5.1 *Generalized set*
  - 5.2 *Characterization*

A categorization of instructional objectives in the psychomotor area is also now available but it is not of much interest to a literacy worker.

Objectives: general and specific. Objectives can be stated at various levels of generality and specificity. Consider the following series:

Level, 1 To prepare farmers to cope with modern and scientific farming—technologically, economically, socially, and psychologically.

Level, 2 To promote the use of high-yielding-variety (HYV) seeds among farmers in Punjab, India.

Level, 3 To teach farmers the making of a farming plan for one growing season of wheat using HYV seeds.

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[1] David R. Krathwohl (et al.), Taxonomy of educational objectives—Handbook II: Affective domain, New York: McKay, 1964.

Level, 4 To teach farmers calculations involving computation of areas and volumes of fertilizers for proper application in a wheat field.

Level, 5 To teach farmers, in the literacy program, numeracy skills.

Level, 6 To teach farmers, in the literacy program, reading and writing of numbers up to 10.

As we go from Level, 1 to Level, 6, we see a progressive move from the general to the specific in the intent of the objectives. General objectives merely give the general direction of teaching and learning. Indeed, general objectives are not teachable in the form in which they are stated. They have to be unpacked into clusters of objectives, which, in their turn, have to be made more and more specific.

Behaviorally-stated objectives. It is sometimes suggested that a good teaching-learning objective is one which is behaviorally-stated. In other words, it should be stated in terms of the behavior that will be elicited or emitted by the learner. The objective stated at Level, 6 above, when behaviorally stated will become the following:

> The learner will (when instructed to do so), write (legibly) the numerals 1 to 9 (using arabic numbers), from memory, and in right sequential order, in 10 to 15 seconds.

The achievement of this objective or lack of it will be quite clear to the teacher or instructor. Thus it is a testable objective. Behaviorally-stated objectives are also testable objectives.

Core objectives. Curriculum developers have sometimes talked of a core curriculum and, therefore, of core objectives. They have suggested that there are some objectives which should become part of the objectives for each and every program and project of functional literacy and nonformal education. The teaching of positive attitudes towards co-operation; functional literacy and numeracy; the teaching of a scientific outlook and an elementary understanding of the processes of nature; the teaching of functional knowledge and skills for raising a family and operating a household; the teaching functional knowledge and skills for earning a living; and the teaching of functional knowledge and skills for civic participation, have been suggested to constitute a core curriculum.

Some others are suggesting conscientization to be the core objective. Conscientization, a word made popular by Paulo Freire, is from consciousness; and means to imply the process of consciousness-raising. The process, if successful, makes the underpriviledged, sociologists of their own desperate situation, and political scientists of their own sorry plight. Others have considered Humanism as part of the core curriculum, something that should be part of the objectives of all programs and projects of nonformal education.

Curriculum strategies

The other half of the means and ends (or objectives and strategy) calculus is, of course, the strategy: the ways in which objectives will be achieved.

Strategy is a military term. It is the science and art of conducting a military campaign on a broad scale and in such a way as to put the enemy to the greatest disadvantage. The enemy in our case is ignorance, ill-health, and hunger. The theatre of war is the bush, the village or the communidad where the underprivileged live. Educators are our generals, and field workers our soldiers of peace, or soldiers of wisdom—Sipah-i-Danish, as the Iranians used to call them. To press the analogy further, books, primers, charts, films, projectors, chalkboards are our armaments.

As the model on page 56 indicates, strategies arise from the manipulation of three elements: methods, materials, and settings. All these three words have become commonsense words and field workers should be familiar with these words already. Thus, even brief descriptions, as included in the following, should be sufficient.

Method. Both "method of education" and "methodology of education" are used by curriculum developers. We think that methodology is a more comprehensive term. It is the science of methods.

Method is a way, means, or manner of proceeding; especially, a regular, systematic, or orderly way of doing anything. An educational method, then, is anything orderly and systematic an educator does to influence both the quality and the effectiveness of a teaching-learning transaction, encounter or event.

The following general principles should be stated in regard to the educational methods appropriate to teaching adults in functional literacy and nonformal education settings:

1. The first condition should be the establishment of a relationship of mutuality between the learner and the so-called teacher. Both should hold each other in mutual respect. It should not be a relationship of superiority and inferiority, between the super-ordinate and the sub-ordinate.

2. The teacher and learner roles should be mobile and interchangeable. Adults are already highly schooled in the school of life. They should not be shut from making their contribution to the learning by the group and to learning by the teacher himself. Adults should learn from each other and should become their own teachers. Some programs have formalized these possibilities by introducing programs of "share your skills" among adult learners. We think that is a good idea.

3. Learners should be in control of their own learning, deciding what to learn, when and how. The teacher should become the facilitator of learning, not its director. With

control must come responsibility. More and more of the responsibility for learning should be shifted to the learners themselves.

These suggestions have been found quite impractical by some in the real world of field work. It is the experience of most of us that adult learners can be quite unwilling learners and may have to be coerced into coming to classes and attending demonstrations; to stay within learning and action groups; and to do something about the problems that surround them in the communities. We have, of course, to meet learners where they are. As we begin field work in an area, it is quite possible that people would not want us; they would not see themselves as having any problems; and they would play the game of hide and seek with us even as we try to help. However, the methodological principles stated here must be kept in mind as ideal states to be achieved and, as soon as possible.

4. Learning in the area of nonformal education should be linked to the real-life. Life itself should be the teacher, and, in turn, nonformal education should solve real-life problems. This is what is sometimes called problem-oriented learning. Every course of study should be linked with a course of action that improves life in the community.

5. Discussion should be given a place of pride in the methodology of functional literacy and nonformal education. Discussion clarifies ideas; allows people to make their own

contributions and not merely ask questions; and can demonstrate the usefulness of ideas to life outside the discussion group. When joined with practical demonstrations or supplemented with opportunities for learning by doing, discussion as a method becomes unbeatable. Wherever possible, adult learners should be allowed to "discover" facts, relationships between facts, and patterns of physical, social and political happenings for themselves. This "learning by discovery" is, again, not easy to facilitate, but as adult educators we must try.

6. Functional literacy workers and those working in the area of nonformal education must not be shy of using the new instructional technology such as films, tape recorders, games and simulations. Films are excellent means of bringing to the learning group, the world from far away; of reproducing the past or visualizing future possibilities; of baring realities for examination and animating what seems static. Games and simulations provide almost first-hand experience with new roles and of the social and political dynamics without the hazards of such experiences in the real world.

7. Alongside technology, must be mentioned analogy, the art of making a point by example, by a folk proverb or by telling a story. My own experience with explaining complicated points or clarifying complex arguments by telling appropriate stories to learners in Zambia, Tanzania and

Kenya has been noteworthy.

8. Finally, learners should be helped along the path of becoming independent learners. The relationship of dependency between the facilitator and the learner should not be allowed to develop. If it does develop, it should be broken. The learner should not be allowed to leave the learning group with the idea that to learn one must have a teacher and a classroom of some sort. They should realize that men must become self learners: they must know when they can learn by themselves; when they should come together in a group to learn from each other; and when they should seek a teacher to guide them.

Instructional materials. Literacy workers are familiar with primers, drill cards, picture sets, story charts, graded books, leaflets and followup books which they often use in their programs. These are the tools of their trade. Technology has made some further tools available that can be and indeed have been put to important uses in teaching adults in out-of-school settings: radio, tape-recorders, and the film. In some cases, television has also been put to important uses.

Having learned from our experience with technology, and with new sensitivities for communities and cultures, we are paying more and more attention to folk media such as song and drama, puppetry, and local crafts and indigenous institutions. We will have more to say about instructional materials in a separate chapter addressed to media and materials.

Instructional settings. What is learned and how it is learned, is influenced considerably by where it is learned? In other words, the setting of learning is an important consideration in the total learning process. There are many aspects of the setting of learning. First, there are the questions of comfort and convenience: Are the learners comfortable? Are they too cold or too warm? Is the meeting place clean, painted and attractive? Is it quiet or noisy? Is it close, at a walking distance, for most participants? There is also the question of seating arrangements: Are adults sitting in rows, fitted into small desks, perhaps, used by children during the day? Are they sitting in a semi-circle to facilitate discussion? Can everyone look at the chalkboard or a chart being studied? Are women sitting in an outer circle and men in an inner circle?

Then, there are further questions about the sociology of the learning setting: Are people with different ceremonial and social status studying in the same group and, thereby, inhibiting each other's learning? Can the peer group influence of learners be used on learners themselves to help them adopt innovations which they would not otherwise have considered? Finally, there is the question of appropriate setting for each type of learning: reading perhaps in a group in the classroom; agriculture in the field; and political education in the baraza or the District Commissioner's office or the district development committee.

A group of curriculum developers, working at the national level, developed a profile of the typical village in India which could serve as a beginning for both a learner analysis and an environment analysis. The main characteristic features of the village life were listed as follows:

- Stable and static society
- Tradition-bound society
- Thickly populated
- Primary and interpersonal contacts abound
- Dependency on each other is high
- Joint family set-up exists
- Kinship oriented society
- Fatalistic ideology is prevalent, aspiration is low but exploitation is high.[1]

Curriculum evaluation

Curriculum, as we shall see in a later chapter, actualizes itself in the form of an instructional system. The elements of this instructional system consist, of course, of:

Inputs: learners, teachers (monitors, extension workers, forum leaders), instructional materials, audio-visual equipment, transportation facilities, etc.

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[1] Curriculum Construction for Non-Formal Education for Women. Report of the National Workshop, Tirupati, September 5-9, 1976. New Delhi: Indian Adult Education Association, 1977.

Processes: instructional, graphic design, layout and printing, managerial, distributive, testing, etc.

Outputs: learning materials, learning, etc.

Context: environment of learning—material and social; immediate and remote.

Curriculum evaluation could involve the effectiveness of the total instructional system, or it could mean the evaluation of only one or more elements of the system. Again, it could be what has been called formative evaluation or it could be summative evaluation. We will discuss some of the typical curriculum evaluation questions in a separate chapter and will suggest briefly the approaches to be followed in each case.

Curriculum development and instructional development as team work

In Chapter I of this monograph, we talked of the linkages of curriculum developers, vertically with Development planners and horizontally with other curriculum makers in the society. Talking of vertical linkages first, the interests of Development planners in such sectors as agriculture, health and rural industry is obvious. Curriculum development teams should, thus, have individuals from relevant Development sectors working closely with them in the actual process of curriculum development. In terms of horizontal linkages, again, curriculum development people in a particular program or project must take the work of other curriculum makers in view. Wherever possible, representatives from other programs and projects in the same area should be invited to serve on your curriculum development committees. Where other curriculum makers do not see themselves contributing to your objectives, or where they see themsleves, in fact, working in a different direction, their curriculum must, nonetheless, be taken into account.

Functional literacy work, or to take another example, community development work, takes place typically within a governmental setting. In such a case, the whole department of community development or of adult literacy education, from the center down to the subcenter or to the village level should be seen as part of an inter-level curriculum development team, each making its own special contribution to the total curriculum development effort. The table on the next page should show how administrators and specialists working at various levels might make their own unique contribution to the development of a total curriculum.

Curriculum cycles and differentiated curricula

Curriculum development should not be seen as a once and for all affair. People's learning needs will change, as new Developmental and educational challenges emerge. Indeed, the successful implementation of one curriculum, should bring with it the need for a new curriculum. Even within the same program and project, and within existing agendas, curricular renewals would be necessary. Curriculum

Table 3.1 Curriculum development/Instructional development within a governmental setting, as team work across various levels

Level of government	Curriculum development/ Instructional development contributions	GENERAL OBJECTIVE X STRATEGY CALCULUS
Central level		↓
Provincial level		
District level		
Sub-center level		
Community/ village level		SPECIFIC OBJECTIVE X STRATEGY CALCULUS

development should, in short, be seen as a cyclic process.

The process of curriculum development, again, must not lead, necessarily, to one common curriculum based on the homogenization of the learning needs of all learners. Curriculum development processes can, and should, accomodate differentiated curricula to satisfy the learning needs of different groups, differentiated in terms of sex, age-groupings, occupations or sub-communities. We shall also have literary projects that work with a combination of common curriculum and differentiated curricula.

Summary

A model of the process of curriculum development in functional literacy and nonformal education is presented. The core model is essentially a calculus of means and ends, of educational objectives and educational strategies, with provision for feedback through built-in evaluation. The core curriculum development process is shown to have interfaces, on the one hand, with the more situation-specific processes of instructional development; and, on the other hand, with the process of needs assessment, and organization for the delivery of instruction. It is emphasized that the curriculum development tasks must be handled as part of team work and not looked upon as work done by specialists left to themselves.

Things to do or think about

1. Do you understand the distinction between curriculum development and instructional development? Do you think it is a useful distinction? What do you do most of the time as part of your job—curriculum development or instructional development?

2. Write one behaviorally-stated, testable objective that will contribute to the over-all general objective of bringing about a humanistic society in Zambia as envisioned by President Kenneth Kaunda.

3. Please state, as briefly as you can, the educational methods that your program or project is committed to employing in your program. Are you able to use these methods? In what ways?

4. Copy the table on page 74 of the book on a separate sheet of paper. Review in your mind the many curriculum development actions that have been taken by many different people in the context of your particular program or project. Now put one item each related to curriculum development (or instructional development) in each of the boxes to represent curriculum development (or instructional development) work done by central government staff, provincial staff, district level officers, sub-center staff and by teachers.

CHAPTER IV

ASSESSING DEVELOPMENTAL AND EDUCATIONAL NEEDS OF COMMUNITIES

Perhaps, this will come to be the age of human rights. We are actively seeking to define and protect human rights—rights, we believe, should belong to each individual person, irrespective of his class, station, race, wealth or education; rights that should belong to him simply because he is born human. And new human rights are emerging. One of these new human rights is the right to participate in the design of one's own destiny; not to be told by the elite and by the bureaucrats what should be done to one's life and to one's community; and to the institutions that make society.

This peoples' orientation has introduced new vocabulary and new obligations into the area of functional literacy and nonformal education. A key word is participation—participatory planning (which must also mean decentralized planning), participatory decision-making, participatory action and participatory evaluation. That is, we do things with the people, not for the people, nor to the people. It is a part of the credo of functional literacy and nonformal education workers today that they do not impose pre-designed programs and projects on adult groups and communities; and that programs and projects are based on the felt needs of individuals, groups, and communities. Everyone in the community education culture today is swearing by the need for needs assessment.

Those of us who work in the field, surrounded by everyday realities, have come to understand the constraints within which social action takes place. We realize that, quite often, governments at the central, provincial, and district levels have already made up their minds about what needs to be done; that there is in reality little room to maneuver; that often the whole process of so-called needs assessment is a fraud serving no useful purpose.

We suggest that needs assessment is, nonetheless, a useful exercise for functional literacy workers and nonformal educators to undertake. At the least, it will give field workers a sense of the community's perceptions of its own needs. Irrespective of the agenda brought to the community by field workers from up above, it is important to know what the people think they need. At its best, the process of needs assessment may, indeed, influence the means and ends calculus at the level at which such assessment is undertaken. The re-invention of national visions and Developmental agendas in the local settings of individual communities, in the hands of a committed and sensitive field worker, could create a program or a project that defines and meets the authentic needs of a people.

Needs assessment: cultivating communities and constituencies

We need to tell a story to make the point.

Once upon a time, there lived in a village by the river, an old farmer who had a few acres of land. He had also been blessed with three sons. They were now all young and healthy.

The family did not, however, get much food from the land, though the old farmer always claimed that the land was good; and that they could get much more out of it, only if his sons would cultivate it well.

Unfortunately, the sons did not work hard on the farm. They did not cultivate it. "There is so much growing all along the river, and on the hillsides. We have not seen anyone come and cultivate the river bank or the hillside!" they laughed.

Years later, the old farmer fell ill. He knew that his time had come to depart from this earth. He called his sons to his deathbed and said to them, "My dear sons! It is time for me to go. All that I have now is yours: the house and what is in it; and the farm. I must say that I had been disappointed with you. You had not worked hard on the farm. I was angry about your being lazy. And my anger blinded me. I should have taken the pot of gold that my father and I had buried in the fields. The gold could have bought us many things and we could have had a better life together. We could have eaten well and lived in greater comfort. But while it is late for me, it is not late for you. Please dig it out of the fields and please share it equally among yourselves."

But before the farmer could explain the exact location of the pot of gold buried in the field, he expired. After completing the funeral rites of their old father, the sons immediately went to the field looking for that pot of gold. They dug all over the place; they dug day and night; but they found no gold. After days of hard work and deep disappointment, they gave up.

But now that the field was ready from all that digging, they sowed some wheat, and they sowed some barley. Weeks later, they could not believe their eyes, as they stood by the side of their fields and saw the promise of a great harvest.

Now the sons understood the meaning of the old man's pot of gold in the fields and why he did not say where exactly it was buried. There was indeed a pot of gold in the fields: but those fields needed cultivating. From then on the farmer's sons always cultivated their fields, making them ready for sowing, in the hope of reaping a good harvest, when the time came.

There is an important lesson for functional literacy workers and adult educators in this story and that is to cultivate the community every time they want to plant new ideas and innovations in the community; and if they wish their efforts to take root and to flower. This cultivation of communities and of relevant constituencies is best handled through the process often described as needs assessment.

Purposes of needs assessment at various levels

The cultivation of communities and constituencies through needs assessment should be repeated at all the various levels of the curriculum development system: central, provincial, district, sub-center, and the community. The purposes of needs assessment and the methods of needs assessment will change from one level to the other as shown in Table 4.1 on the following page.

Two further issues should be discussed at this point:

1. Felt needs versus fashioned needs
2. Needs profiles and the needs negotiation process

Felt needs and fashioned needs

While we always keep on talking about serving the felt needs of the people, as functional literacy and nonformal education workers, we are really in the business of fashioning new needs, teaching those new needs and then fulfilling them. We are not often interested in fulfilling the felt needs of individuals and communities, because we do not always "approve" of those felt needs. We do not want to buy or procure for our clients all the beer they may want to drink; lots of food for their large families and baby food for their infants; bicycles and television sets; not even schools, when the people think they need to have a higher

Table 4.1 Purposes and methods of needs assessment at various levels of the curriculum development system

LEVEL	METHOD	PURPOSE
Center	National survey of client groups Polling of national leadership Survey of experts Inter-ministerial committees	Validation of ideologically-determined needs Policy making and planning Ministerial integration Generating national support
Province	Regional survey(s) of client groups Polling provincial leadership (perhaps through Provincial Development Committee) Survey of experts Inter-departmental committees	Province-level planning Provincial adaptation of plans Inter-departmental integration Generating support
District	District survey of client groups Polling district leadership (perhaps through District Development Committee) Inter-departmental committees	District level planning Design of integrated services

Table 4.1 (Continued)

LEVEL	METHOD	PURPOSE
Sub-center	Needs assessment of adults in a particular program or project Profiles of needs as seen by other groups and constituencies Inter-departmental committees	Re-invent in local settings, needs as determined at other levels Delivery of integrated services
Learner group	Needs analysis of particular groups and individual learners	To assist in learning in relation to needs already understood

secondary school, all to themselves, right in their own community. We may instead decide that they need information on the usefulness of breast feeding infants and in dangers of excessive consumption of beer. We may want them to learn new needs about boiled water and balanced diet; about clean surroundings and preventive health practices; about small families and cooperative behavior; and about education and political participation.

But as we have pointed out earlier, while we are in the business of fashioning new needs, it does not mean we are not interested in finding out what the felt needs of our client gruops are. We certainly need to know what needs people already feel; and what needs they have already internalized; so that we can begin where the people are. This would mean helping people compare what they are demanding with what is being offered to them. This would mean confronting their world with the Developmental vision. This would mean some unlearning on the part of the client groups about needs they have already learned; but quite a bit of learning of new needs. This would mean, of course, quite a bit of learning on the part of the functional literacy workers as well to be able to negotiate with the client groups in regard to the needs they have and the needs they should have.

Needs in a time frame. We often hear people talking about how our needs have increased as times have changed.

Indeed, they have. Both ideology and technology have discovered and fashioned new needs; and we have learned them so well that their lack of satisfaction is a source of great personal frustration and social dissatisfaction. Needs can thus be seen to have a time frame. Old needs die, new needs are born. The process of needs assessment, therefore, needs to be a continuous process of learning and renewal.

Needs profiles and needs negotiation

Needs are not, like pebbles on the seashore, to be discovered and picked up. Needs emerge through a process of researching, discussion and negotiating. The concept of needs profiles is useful in needs assessment; and it should work in two ways. First, one should identify special interest groups and subcultures within the community such as women, youth, recent immigrants to town, etc. One should think of building needs profiles for each of those, separately. Second, one should develop different needs profiles of the same group of learners, that is, many different needs profiles of youth; and many different needs profiles of women.

The question should be asked: Whose needs according to whom? Then in the context of a program for women, for example, many different profiles of needs may emerge:

(i) Needs of rural women in the copperbelt of Zambia according to rural women themselves.

(ii) Needs of rural women in the copperbelt of Zambia according to their husbands.

(iii) Needs of rural women in the copperbelt of Zambia according to field workers.

(iv) Needs of rural women in the compperbelt of Zambia according to national women's groups.

(v) Needs of rural women in the copperbelt of Zambia according to national planners and policy makers.

Once different profiles such as those suggested above have become available, the process of needs negotiation should begin.

Needs negotiation. The concept of needs negotiation is an attractive one, but not an easy one to bring about. When we come to the stage of marrying many different needs profiles together, who will represent all those different interests? Who will represent the women? Who will represent their husbands? Who will represent the field workers? There are further problems with conducting the negotiations. Can the weak freely negotiate with the powerful? Can "beggars" be choosers? And what do we do with conflict situations, where one group of people want to perpetuate their vested interests and another needs to topple down the existing structures of privilege? Who will be the artibrator when everyone seems to need different things?

The only way out seems to be that we promote the form and hope that meaning will grow into it as people learn to work with and through this form. Literacy workers should, therefore, begin with this process of developing many profiles; bringing together representative groups; and initiate discussion for promoting consensus. This would be the only way to obtain a situation-specific agenda for a particular community, at a particular time and place.

Generative needs network. Generative needs are those which have the power to produce or originate in the community more desirable needs in the context of national aspirations and agendas. Needs networks could be developed indicating what needs must be fulfilled first, for other needs to be fashioned and to have a chance of being actualized, later. At times, the development of a generative needs network might even help in promoting consensus and in conflict resolution by showing how some needs might be irreconcilable (if you have one, you cannot have the other); and how some others could not be fulfilled now, but would be, down the line.

The learners as researchers. It should be pointed out here that this process of needs assessment, in all its aspects of interviewing, observing, developing needs profiles, negotiating to develop one list of needs, must be conducted in collaboration with the community itself. The community should not be shut out of the process in trying to make it scientific and correct, valid and reliable. The learners must themselves become the researchers of their own realities.

A dialectical model of needs assessment

What we have presented above constitutes a dialectical model of needs assessment and in fact of community education itself. We need to know what the people think and we need to provide opportunities to them to project their needs, hopes and aspirations in the total process of education within a functional literacy program or a project of some other kind. At the same time, we cannot pretend as if the nation state does not exist; and as if there is no role for leadership, the elite, if you will, in the nation building process.

As is shown in Figure 4.1 on the next page, national visions and local aspirations must be reconciled. The process of reconciliation must involve (a) educational actions and (b) organizational actions.

An important part of the set of educational actions would be needs assessment according to the procedures, we have just outlined. Other educational actions would involve choice of appropriate content and methods of instruction. The organizational actions must accommodate, minimally, local participation and local control in planning, implementing and evaluating. The interaction of educational actions and organizational actions may lay bare the necessity for new centers and units and for new instructional roles.

Each country, each region, and perhaps each community would then have to invent its own program and project that,

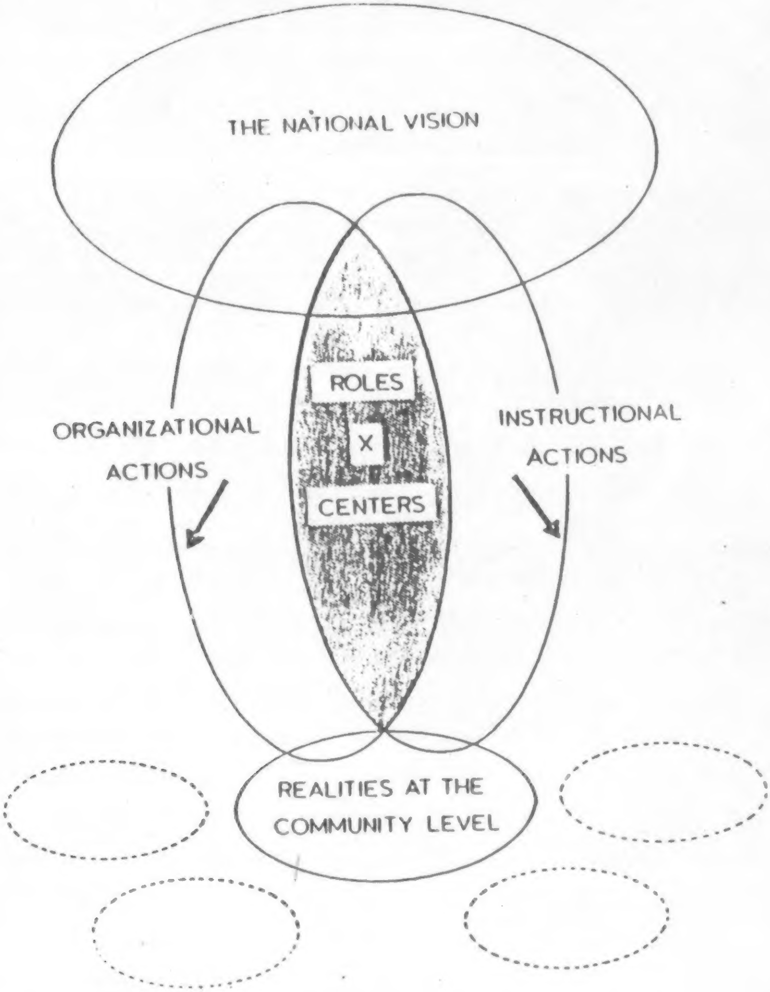
THE NATIONAL VISION
ROLES
X
CENTERS
ORGANIZATIONAL ACTIONS
INSTRUCTIONAL ACTIONS
REALITIES AT THE COMMUNITY LEVEL

Figure 4.1 A dialectical model of needs assessment and community education.

using this dialectical model, will reconcile national visions with local aspirations. A group of curriculum specialists discussing this dialectical model put it this way: "As the sunlight causes a tree to blossom, so the light of the national vision should cause the literacy programme to come into bloom, deriving its principal sustenance not from the "light" but from the "earth" in which it is rooted."[1]

Developmental needs and educational needs

To do curriculum development, we need to be knowledgeable about both Developmental needs and educational needs. Sometimes in the needs assessment process, the two sets of needs get confused. Field workers do not always know what they are asking for; and are not able to separate the two sets of needs in their investigations.

Quite often curriculum developers do get a profile of Developmental needs, but not a separate profile of educational needs. As a result, they then sit down, as specialists, and try to derive a set of educational needs from a set of Developmental needs. It should be noted, however, that going from Developmental needs to educational needs is not a simple, logical process. It is a heuristic process, and it is a political process. In the process of generating educational needs from a set of Developmental needs, we must, therefore, go back to the people we seek to serve; and let them speak, again.

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[1] From the report of Group III, International Seminar on Curriculum Development for Basic Education Programmes, June 12-21, 1978, West Berlin; organized by the German Foundation for International Development, Bonn.

Training in sensitivity

In this chapter on needs assessment, we have talked so much of participation and of what we have called needs negotiation. But participation and needs negotiation does not come easily to program organizers. There are problems at two levels. At the philosophic level, participatory strategies and negotiation require a world view in which facilitators work deliberately to invite participants to claim their power and to claim their rights. At the more practical level, it requires that facilitators learn to deal with their feelings as facts; to overcome their egoes; to learn to listen with patience; to offer without imposing; to tolerate ambiguity, frustration and lack of closure.

This would require training in sensitivity. Different kinds of experiences in sensitivity training are now available under different names. We would suggest that functional literacy workers interested in the dialectical model of needs assessment begin to experiment with group dynamics techniques; become more perceptive; sharpen sensitivities and raise their awareness. Finally, it is not only the learners who have learning needs, the so-called teachers have learning needs as well. The whole system must learn, and learn continuously. We must also build organizational intelligence.

Summary

This chapter elaborates the process of needs assessment and points out the central importance of participative strategies in authentic needs assessment. The concept of felt needs is critiqued in relation to fashioned needs and the concept of needs negotiation is presented.

The discussion leads to the presentation of a dialectical model of needs assessment, indicating how national visions (held by the nation's leadership) and local aspirations (held by local communities) could be reconciled through the two actions of educating and organizing.

Things to do or think about

1. Are you persuaded by the author's argument in this chapter that needs assessment should be carried out, even as you already have a state approved Developmental agenda and even if you know what the needs of the people are? In other words, do you agree with the author's concept of cultivating communities and constituencies?

2. Table 4.1 on page 82 of this monograph represents an "ideal" situation where everything that should have been done, by way of needs assessment procedures, has been included in the various boxes. Taking the specific case of your program or project in your particular country, develop a chart

that describes the things that were actually done in your projects based on your personal knowledge of the situation.

3. What are your thoughts about the process of needs negotiation proposed by the author in this chapter? Do you think it can work in your country/community situation? What methods or approaches would you use in this process of negotiation to make it workable?

4. Examine carefully the dialectical model of participative needs assessment. What special educational and organizational/administrative actions will you propose for your country for reconciling national visions with local aspirations?

CHAPTER V

INSTRUCTIONAL SYSTEMS DESIGN FOR FUNCTIONAL LITERACY

In the preceding chapters, we had begun by putting the process of curriculum development in a Developmental context. We had then presented a core/interface model of curriculum development in functional literacy and nonformal education which showed the core curriculum development process to be interfacing with needs assessment and delivery systems, on the one hand; and, on the other hand, with the process called instructional development.

A distinction was made between the more general process of curriculum development and the more specific process of instructional development. In turn, the three elements of the instructional development process— (i) task analysis, (ii) learner analysis, and (iii) environment analysis—were introduced.

We will not go into a further elaboration of the process of instructional development and talk about what it means to do an instructional systems design.

What is instructional systems design?

For a long time in the history of education, once a curriculum had been planned, it was then a matter for the teacher to read the intentions of the curriculum and implement it for his students. The only help that teachers got in the implementation of the curriculum came from the textbook writers and publishers who gave the teacher the books he could use in the classroom; sometimes gave him a teacher's guide; and exercise books and tests for use in the classroom. More recently, publishers had started to produce audio-visual aids that were supposed to be integrated with books, guides and tests.

Sometimes during the mid-sixties, it occurred to educators that some systematic help could be made available to the teacher and the learner in the implementation of the intentions of the curriculum. They realized that the available knowledge in educational psychology, sociology, communication and electronics, and of the structures of knowledge had already made a scientific instructional technology possible and within reach. The work that has been done in the pursuit of this promise is what has been called instructional development. To put these ideas of instructional development to work to create fully-functioning systems that include both software and hardware is what instructional systems design is all about.

More on the elements of instructional development

We return, again, to the three elements of instructional development: task analysis, learner analysis, and learning environment analysis. Since these three sub-processes of instructional development have been introduced in earlier chapters, some repetition is unavoidable.

Task analysis

As part of the learning task analysis, the following set of questions will be asked: What is the learning objective? What categories of learning are involved? What content must be learned to actualize the learning? What is the structure of the content of knowledge unit chosen? Does the knowledge unit have more than one identifiable component? What is the possibility of integrating the various components of the content chosen? What would be an acceptable level of learning, if mastery learning is not possible or is not insisted upon?

Learning objectives in a functional literacy program can vary and cover a wide gamut: to learn to read lesson 19 in the primer; to examine the taboo against the consumption of eggs by pregnant women; to learn to participate in group discussions; to learn to keep accounts for a marketing cooperative; to learn to drive a tractor; to grow maize on small farms in the copperbelt area of Zambia; to acquire self-awareness through conscientization; and to learn to act humanistically in everyday life.

The next question, after the statement of objectives, should relate to the categories of learning involved in the achievement of learning objectives (or the accomplishment of the learning tasks). For instance: to learn to read lesson 19 in the primer is a cognitive task (it is all a matter of the head, to use a layman's word). The examination of the taboo against eating eggs during pregnancy may require some logical analysis but it is mostly a matter of attitudes (it is a matter of the heart, to use a layman's word). Thus this learning task may involve both cognitive and affective categories of learning. To learn to participate in group discussion is, again, both cognitive and affective. This is so because to be a good participant in a discussion you need to understand arguments and to formulate your contributions; but you also need to loarn to deal with feelings as facts—feeling of insecurity, feeling of hurt, feeling for ego satisfaction, etc. To learn to drive a tractor could perhaps be categorized as skill learning. To learn to act humanistically in everyday life would require very complex learning involving new knowledge, new attitudes and values and perhaps many skills to be able to provide voluntary services to the needy. (See the two displays, "Instructional Objectives in the Cognitive Domain," and "Instructional Objectives in the Affective Domain" included in Chapter III, pages 61 and 62.

The choice of content and/or activities that would become the vehicle for learning is the next consideration and an important one. Is it verbal knowledge, or is it also an activity involving application? What is the relationship between the activity and its logic? What is the structure of the content to be taught? Does it have a set of general principles that must be taught first? In learning to drive a tractor, for example, should there be a combination of theory and practice of driving a tractor? How should the material be integrated?

Finally, there is the question of acceptable level of learning. In some cases, the answer is clear-cut: you can or you cannot weld two metal pipes together; you can or you cannot drive a harvester. But there are other areas of learning where skills at different levels may be acceptable. One can read some easy-to-read materials though not all materials; one can solve most arithmetical sums involving additions, subtractions, multiplications and divisions, but not handle simple algebra. In such cases acceptable levels of performance will have to be defined.

Learner analysis

The basic question, of course, is what is the learner like? This general question could be broken down further into the following questions: What is the level of intelligence of the learner? What kind of an overall profile do we get for all learners in the group? What is the current level of achievement of the learner group (in reading, in counting, in agriculture, in health, etc.)? What is the typical structure of the learners' motivations? What are their learning styles? What might be some status-related inhibitions against learning among the learners? What might be some incapacities centered in their social class, such as, tiredness for reasons of low intake of calories, bad eye sight, etc.? What is the level of emotional and mental health of learners in the group? What are the values to which learners in the group subscribe?

Level of intelligence. Level of intelligence of a learner can be measured by what is called an intelligence test. The score on the intelligence test is called an IQ. In the field of nonformal education and out-of-school education, there are no intelligence tests to apply. It is, in a way, fortunate that literacy workers can avoid the complexities and problems of using intelligence tests.

Achievement tests. Achievement tests measure current knowledge and such tests in reading, writing, numeracy, agriculture, and health, and can provide useful data on the entry behavior of learners. That is, achievement tests can tell us how much our learners know at the point of entry into the program.

Structure of motivations. What is it that motivates learners to learn in a particular situation? Is it an economic motivation? (Learners expect to earn more, or grow at home the food they now have to buy). Is it social motivation? (This is the only opportunity for the women to come out of their homes, to get away from the never-ending drudgery of house work and be able to chat and talk). Is it political motivation? (They want to know what is going on and want to be able to organize themselves for political action under the rubric of the learner group). Is it the inherent desire to learn, simply because there is so much to learn? Is it the competitive spirit because this community wants to be like the one next to it?

One can be quite systematic about examining all these motivations and finding out how one motivation is related to the other. One can indeed make it a big research project and spend months and years in finding an answer. But that would not be productive. Functional literacy workers should be able to develop simple questionnaires, and conduct simple interviews to get good enough data on motivations of learner groups. This would be an excellent opportunity for conducting participatory research: asking the learners themselves to investigate each other's motivations.

Determining learning styles. Professional instructional developers have also talked of the learning styles of learners. They suggest that some learners in groups like to deal with abstractions, while others like to deal with the concrete world around them. Some prefer deductive learning (principle first, examples later); some learn inductively (they like to see many examples and from those draw a conclusion). Some like to learn alone, some in groups. Some need more guidance, others less. Some learn through human interactions with the teacher; others can learn from self-instructional (programmed instructional) materials.

A literacy worker working at the level of the district or at the sub-center would not have the resources to undertake any thorough and systematic analysis of learning styles of learners. He does, however, have to develop sensitivities to the presence of different learning styles within the groups and have an intuitive understanding of who seems to have what learning style. This would help him to engage in an effective diagnosis of the learning problems as they arise. This will also suggest to him that the material being taught to a learner group may have to be presented in more than one way to be able to cover most of the learning styles that might be present in the group.

Status-related inhibitions. Learners may have status-related inhibitions against some learning content. Women may have inhibitions against learning how to service the tractor or how to repair the tube-well. These may not be seen as womanly jobs. Again, men may be inhibited against learning how to take care of babies or mending a shirt. Some learners from the lower socio-economic classes (even though they may have joined your classes, under pressure from the local leadership, or in the early enthusiasm of the campaign) may not really believe in their own worthiness as learners.

Once, again, a functional literacy worker must be aware of the possibilities of such inhibitions existing and must bring them into the open and must deal with them honestly.

Class-centered incapacities. There are some incapacities that arise in learners simply because of being part of a particular economic class. We have found that many children in Africa, Asia, Latin America and, unbelievably, in the affluent North America, go to school hungry. The hungry cannot concentrate on their learning. Also long-term protein deficiencies in the children's diet in the early and formative years of their lives destroy brain tissues and thereby intellectual capacity. The adults may also come to classes hungry or tired. They may be tired, not only because they put in a whole day of hard work in the fields but also because their intake of food has had insufficient calories and low protein. They may thus be tired and listless. Some of them may also have bad eye sights and no money to buy glasses.

Field workers, as part of learner analysis, should raise these questions, and help learners find some adequate answers and some practical solutions.

Questions of mental and emotional health. To learn well, one must be mentally and emotionally healthy. We would not suggest that the functional literacy worker try to solve mental and emotional problems of learners in the community. Mental and emotional problems are complex and bad assistance can do more harm than good. In this case, the best the field worker can do is to obtain counseling for those who need it and may profit from it.

Values they uphold. An important part, though often neglected, of learner analysis is the examination of values held by learners. In the area of functional literacy, especially where it is not just a matter of learning to read and write but for learners to develop new relationships with other people, with society, with work, with land and even with their own bodies, values play a crucial role. Much too often field workers have failed to teach nutrition, to promote new crops, or to establish cooperatives because of the value conflict those innovations generated in the learners,

Values can be studied at various levels. One can talk of general values or of values specific to particular things, roles, and racial groups. Functional literacy workers may often be better off dealing with specific values in relation to specific innovations they are trying to promote. Such specific values should not be too difficult to determine and field workers should learn to develop simple value clarification instruments on their own.

With these brief notes on learner analysis, we now consider some of the questions that can be raised as part of environment analysis.

Analysis of the learning environment

The learning environment can be studied in terms of two separate dimensions: (1) physical *versus* social-psychological, and (2) immediate *versus* remote.

In analyzing the physical and immediate environment of the learning group, one would consider the general condition and size of the room where the group meets, the color of the walls, natural or artificial lighting, sights and scents around the place; number and size of chairs or seats; noise level around the room; and if the group meets in the open under a tree, the wind and weather and the distractions from the passing people and traffic.

The immediate socio-psychological environment of the learning group is also important. Is the class meeting near a bar, or at a place where the bar is the easiest place to reach. Is the group meeting in an individual's home? Do people feel comfortable to visit this man's home, and do they feel comfortable once they have come there? Are there socially or ceremonially incompatible learners in the same learning group? (The mother-in-law and the daughter-in-law would be a ceremonially incompatible dyad in the learning group).

Finally, there is the distant social environment which influences the learning group in some important though subtle ways. In times of social conflict and street battles, or run-away inflation and unemployment when everything seems to be breaking down, it would be hard to obtain conducive learning environments for functional literacy groups. No wonder, literacy campaigns and adult education plans thrive in eras of hope.

As we have gone through the questions that would be involved in the three analyses of learners, learning tasks and learning environments, we are trying to point out to the instructional developer in the functional literacy area, the complexity of the enterprise. We wish the functional literacy workers could collect all the information they need for planning of instruction; that they could solve all problems of physical comfort and social dissonance. But this would never happen. The ideal set of conditions will never obtain. We live in an imperfect world; functional literacy workers cannot play God and demand control on the communities, on leadership and on the environment. All they can do is do their best.

From curriculum development and instructional development to instructional systems design

A system is an orderly combination or arrangement of parts, elements, processes, etc., into a whole according to a rational principle. We want to design an instructional system which will produce instructional events. We want it to be both rational and functional.

A fully functioning instructional system, in our case, must provide for learners to get together in classes, radio forums and discussion groups and follow learning objectives that they themselves participated in establishing. The learners within the system must be assisted by trained teachers, discussion leaders and forum leaders, literacy supervisors and administrators; should have for use instructional materials and equipment that helps but does not restrict their learning; with provisions for feedback through evaluation; and opportunities to apply learnings to solve real problems of everyday life.

In the following, we will present the rudiments of the instructional systems design process in two important instances: a program for functional literacy in a Third World country; and a program for the training of literacy teachers for such a functional literacy program.

An instructional system analyzer

The tabulation below can be characterized as an Instructional System Analyzer which can be used for instructional system analysis in the same way that standardized forms and blanks can be used in preparing various kinds of specifications. This Instructional System Analyzer, as will be seen, has brought together three of the models presented earlier in this monograph. The three models are: (1) the model of vertical relationships between the course of study and the course of action (Figure 1.1 on page 12); (2) the model of horizontal linkages between a program curriculum and concurrent curricula (Figure 1.4 on page 32) and (3) the core/interface model of curriculum development in nonformal education (Figure 3.1 on page 56).

The table below combines the parameters and concepts from these three models and then lists the questions that will have to be asked in relation to each concept and parameter. As curriculum developers go through the process of using the Analyzer, they will have to find answers to these questions from their personal knowledge, from consultations and discussions with their colleagues, from higher officials, from plan documents and policy statements and from the large body of technical and professional literature.

What will be the end-product of the process of instructional systems design? In other words, what will we have on paper to show to someone? What can we send to someone when one asks to see our instructional systems design?

Your end-product will be a document which goes through the process as systematically as has been proposed in this chapter and supplies answers to all the questions (or most of the questions) in the tabulation presented on pages 108-119. In addition, it may present documents on various sub-systems: the training sub-system, the materials production sub-system; the learning resources centers sub-system which will have to be part of the total instructional system of functional literacy.

Table 5.1 Considerations for Instructional Systems Design: The Case of Functional Literacy

Parameter/ Concept	Elaboration	System Data/Plans
Developmental context	What are the development goals of the nation?	
	What are the essential development objectives?	
	What are some of the essential development strategies?	
	Is there a basic development strategy that is supposed to set the tone and temper of development in the nation?	Humanism in Zambia; Ujaama in Tanzania.
	What are some of the implications of such a basic strategy in the organization and conduct of field work?	
Sector development considerations	What is the most crucial sector which, if developed, would generate development in all other sectors ?	In one country it may be mining, in another it may be fishing. In many developing countries, it turns out to be agriculture. In the agricultural sector, again, emphases may differ. Again, a country may decide that the most important sector is education and information; in other words, politicization may be considered to be the most important sector. Such a choice of the crucial sector would, perhaps, give us a literacy project that focuses on conscientization.

Parameter/ Concept	Elaboration	System Data/Plans
	What are the most important sectoral goals for development?	
	What are some of the developmental strategies peculiar to this sector?	
	What kinds of educational/informational strategies have been conceptualized?	
	Is literacy clearly indicated to be a part and parcel of the educational/informational strategies?	
Program or project analysis	Is the program or project of functional literacy directly linked to the development of the sector?	
	Does it cover more than one sector?	
	Does it use the cultural or political education approach and is thus related to all structures--political, economic, social, professional and institutional?	We are referring here to the literacy approach promulgated in the Declaration of Persepolis. It considers conscientization as the essential objective, participation as the essential strategy, with implications for all the various structures—political, economic, social, functional and institutional.
	What are the program/project's supplementary or subsidiary interests?	A program/project built around improved production of tobacco may have a very important interest in marketing cooperatives.

Parameter/ concept	Elaboration	System Data/Plans
	What are the program/project's objectives?	
	What is the program/project's essential strategy?	Functional literacy concept is essentially strategic, that is, the strategy proposed to be followed in functional literacy projects is what makes this program so special. Unesco's work-oriented literacy The strategy demands that economic motivations be used. The strategy demands that the teaching of the 3R's and of economic skills be fully integrated. The strategy requires that the choice of areas for location of the functional literacy project and of clients of the program in the project areas should be selective. The strategy also requires the intensive approach: teaching a full program of instruction that covers all the various aspects of the life of the learner, using all the various institutions and media of instruction and providing all the inputs and storage and marketing facilities that might be required for extending and improving the economic activity.

Parameter/ concept	Elaboration	System Data/Plans
	What is the program/project's sharpened focus?	Is it indebtedness? Is it the exploitation of bonded labor? Is it Ujaama? Is it maize growing or cotton growing or fishing? Or all of these for different regions?
Horizontal linkages	Is there another project in operation in the same field work area and seeking to cover the same client group?	While you are planning a literacy project, there may be another project on health, or agriculture or child-care in operation in the same area. We must find out what their curriculum is, and how collaborations might be developed.
	If not a distinct project, is there a more general program in operation in the area that could be used collaboratively with the functional literacy program?	Such a program may be being run by the ministry/department of the central or state government or a church or another voluntary association.
	Is there a program or a more focussed campaign being run over the country's broadcasting media?	The All India Radio had had a regular Dehati (rural) program since the pre-Independence period. Tanzania recently is known to have run some most powerful and effective campaigns on the radio on the subject of health.

Parameter/ concept	Elaboration	System Data/Plans
	Are there any projects, or programs or media campaigns which are, in a sense, teaching counter-curricula?	In some political systems this is quite possible to have competitive leadership groups or opposition parties or business interests teaching some sort of counter-curricula. One dramatic example of a counter-curriculum in Africa has been the popularization by business interests of baby food for children, desperately in need of proteins which can come to them only from being breast-fed.
Curriculum development	What would be the "educational component" of the total developmental effort as defined in terms of the program or project?	
Clients:	Who would be the clients?	Cotton farmers in the Lake regions of Tanzania; or Maize growing, Bemba-speaking farmers in the copperbelt of Zambia; or wheat farmers in the age group 15-45; or women in the child bearing age; or out-of-school youth; or families of recent immigrants to the city, and now living in a particular slum area; or the whole community, not differentiated in any way.

Parameter/ concept	Elaboration	System Data/Plans
Contents:	What should be the content of curriculum? That is, what should they be learning?	It is possible indeed to think of a universal core curriculum for functional literacy programs all over the world in all the different settings. One can think of a "humanistic literacy curriculum" and also of a "scientific literacy curriculum." In a typical work-oriented functional literacy program the content may include: teaching farmers the merit of growing maize in place of casava; teaching the scientific farming of new maize; storage and marketing of maize; teaching farmers' wives cooking of maize dishes; teaching poultry farming and pig raising; teaching family planning, nutrition and preventive health. In a functional literacy program in the Persepolis mode, the central theme and, therefore, the content may be the teaching of critical consciousness.
Learning settings:	What is the learning setting?	The setting of learning may be the classroom, an informal group, a more formalized discussion group; it may be the field or the place of work or worship; it may be the street corner or the market place; learning may take place within a peer group, within the family; it may be offered individually or through correspondence.

Parameter/ concept	Elaboration	System Data/Plans
Learning method:	What will be the teaching-learning methodology?	A functional literacy project may insist on participatory methods, without making any compromises in regard to the methodology. Thus instructional materials also may be learner-made. Integration may be the methodological choice in another program. Yet, another program may talk of the problem-solving approaches. Learning by discovery may be the bais in some other programs and projects.
Learning Materials:	What will be the learning materials used? Will all the learning materials be prepared within the program or the project or will some of them come from the outside? Will learners produce some of the learning materials? Will the program use a primer? Or will the program use thematic cards/sheets produced by each group in the process of learning? If a more formalized literacy primer is used, will there be exercise books and teacher guides to accompany it?	

Parameter/ concept	Elaboration	System Data/Plans
	What audio-visual materials will be used? What will be the context of their use: radio forums/ discussion forums? Will there be emphasis on indigenous institutions and folk media? Will the more technological instructional materials, such as, simulations and self-instructional materials be used?	
Delivery systems of instruction and materials	What systems will be used for the delivery of instruction and materials? Will existing institutions be used to perform expanded roles to fulfill the requirements of functional literacy? Will new institutional arrangements be created? Will these arrangements be temporary or semi-permanent?	A functional literacy project may decide to establish a network of learning resources centers (LRC's) to be discussed later in this monograph.
Needs assessment	What is the project's concept of needs assessment? What are the various levels at which needs assessment is being carried out? What methods are being used for carrying out needs assessments?	

Parameter/ concept	Elaboration	System Data/Plans
	How are the results from needs assessment being integrated with the results of curriculum requirements obtained through the analytical process of deriving them from Development needs?	
Instructional development		
Learner analysis:	In the context of well-defined, specified learning settings, what are the learner characteristics?	
	What is the level of learners' knowledge at the entry point?	
	What is the structure of their motivations?	
	What do we know about their learning styles?	
	What are their status-related inhibitions to learning?	
	What are their social class incapacities in learning?	
	What is the status of their mental and emotional health?	
	What are the values to which they subscribe?	

Parameter/ concept	Elaboration	System Data/Plans
Task analysis:	What is the nature of learning involved? Is it cognitive (involving information learning)? Is it affective (involving learning of attitudes and values)? Is it psychomotor learning (involving learning of new movements and body patterns)?	
	What is the structure of learning?	
	What are the elements involved in learning?	Many countries are trying to teach literacy in a language which is not the mother tongue. In such a case, the problem is not merely of teaching reading, but of teaching a new language and then teaching reading and writing in that newly learned language. Kiswahili in some parts of Kenya; Arabic in Southern Sudan; Portuguese in Mozambique and Guinea Bissau.
	Does the information to be taught form part of an articulated hierarchy, and therefore, a well-defined sequence?	
	Could the task be arranged in terms of some generative princples and examples of the principle?	
	What are the "application imperatives" of the knowledge being imparted? How will it be transferred to the new situation? Are the bridges being built?	

Parameter/ concept	Elaboration	System Data/Plans
Envoronment analysis:	What is the nature of the physical environment in which learning will take place?	
	What is the psycho-social environment of learning?	
	What parts of the environment can be manipulated as part of the instructional design? What parts are beyond control and must be coped with?	
	What part of the larger socio-political environment must be taken into consideration?	The conflict in Rhodesia and its implications for programs in neighbouring Zambia.
New institutions and social arrangements supporting learning	What supporting institutions exist or have been created or should be created as part of the instructional system design for learning to be reinforced?	
	What coalitions or collaborations must be established and with whom?	
	How should interfaces be built between the instructional system designed for functional literacy and the instructional systems built (or as they may have emerged) for the collaborating institutions?	

Parameter/ concept	Elaboration	System Data/Plans
Evaluation	What are to be the most likely evaluation needs of the instructional system? Will there be an overall Management Information System (MIS) for the total project which could be adapted to serve the needs of the instructional system? How will formative evaluation of instructional materials be handled?	

Organizing for teaching

Ultimately, instructional content, instructional objectives, methods and materials and evaluation of instruction must come together. Different curriculum developers like to work with different mechanisms of working out these relationships. We produce below three different Exhibits of how this was done by different curriculum development groups. The first Exhibit is from a group developing curricula for non-formal education programs for women.[1] The contents of the curriculum are placed against objectives; methods of presentation are indicated that should be followed to achieve given objectives; and finaliy activities which should follow are indicated.

EXHIBIT I

CURRICULUM AND MATERIALS PREPARATION GUIDE

Subject Area: Providing and improving occupational opportunities
Main Problem: How to improve the traditional occupations
Sub-Problems: Improvement of agricultural operations of rural women.

Contents	Objectives	Method of presentation	Activities which should flow
Information about improved knowledge and skills will be imparted on the following areas to enhance the productivity of agriculture.	1. To enable the learners to adopt modern agricultural practices. 2. To enable the learner to develop scientific	1. Method demonstration. 2. Organising agricultural exhibitions. 3. Arranging visits to developed agri-	1. Activity chart explaining the steps to be taken. 2. Intermitant evaluation and concurrent feedback.

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[1] Curriculum Construction for Non-Formal Education for Women. Report of the National Workshop, Tirupati, September 5-9, 1976. New Delhi: Indian Adult Education Association, 1977.

Contents	Objectives	Method of presentation	Activities which should flow
1. Economic (a) Knowledge about various sources for getting loans such as cooperatives, credit societies, rural banks, land mortgage—consequences of borrowing money from local money lenders. (b) knowledge about savings—consequences of ignoring savings and extravagent expenditure. (c) Advantages of establishing marketing cooperative societies for marketing the produce to get the maximum profit. (d) Efforts for incresing per capita-income through better planning of agricultural operations. 2. Social (a) Ill-effects of (i) investing unreasonable amount of money in ornaments and fashion goods,	knowledge and skills on various aspects of modern agriculture. 3. To enable the learner (i) to develop the habit of saving, (ii) to avoid wasteful expenditure, (iii) to utilise a part of profit for further investment for improving agricultural production.	cultural farms. 4. Group discussion. 5. Organising campaigns. 6. Individual contacts.	3. Preparation of teaching learning materials. 4. Involvement of agricultural scientists and extension officials.

Contents

(ii) extravagent expenditure on social and family functions.

(b) Fragmentation of land-holdings due to social and legal issues and population explosion and its adverse effect on agricultural production.

3. Scientific

(a) Adopting latest scientific methods relating to (i) seed preservation (ii) manures and fertilizers (iii) agricultural implements (iv) storage.

(b) Conservation of soil fertility and avoiding soil erosion.

4. Skill Development

(a) A sense of innovativeness to be inculcated in the minds of learners to accept modern methods of agriculture.

(b) technical skills relating to:
  - (i) proper storage techniques
  - (ii) scientific seed treatment methods
  - (iii) proper spacing between plants and rows
  - (iv) moving weeding implements and seed drill.

In Exhibit II below, a slightly different approach is followed.[1] The subject area (content) is analyzed in terms of major problems and sup-problems. This is followed by resource analysis. The last two columns elaborate the methods to be employed and materials to be used to solve the problem, in other words, to achieve objectives.

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[1] Curriculum Construction for Non-Forman Education for Youth. Report of the National Workshop, Narendrapur, September 16-22, 1976. New Delhi: Indian Adult Education Association, 1977.

EXHIBIT II (Continued)

Subject Area 1	Major problems (constraint) 2	Sub-problems (sub-constraint) 3	Analysis of resources 4	Media or methods 5	Material 6
Health & nutritional improvement	Ill-health & insufficient and inadequate diet.	Lack of nutritional knowledge	Existing health facilities 1. Local vaidyas 2. Local untrained Aayas 3. Primary health centres being far away 4. Bad-food habit 5. Bad drinking water B) New resources 1. Green vegetable 2. Germinated gram 3. Protein intake 4. Kitchen garden.	Demonstration A.V. aids Film strips Flashcards Puppetery Flannelgraph Change of food habits.	

Exhibit III below is a composite from detailed curriculum planning document prepared by the group working on "A Curriculum for Functional Literacy for Zambia, 1979-81" at the "Workshop on Curriculum Development for Functional Literacy Programmes" held at Kitwe, Zambia during 30 April to 12 May 1979. The content relates to the phase after initial literacy skills have been learned by the learner groups. The columns used, as we can see, are content, objectives, activities and instructional materials:

Forms	- Complete forms essential to participation in his immediate institutional environment	Use sample forms to explain their function. Reproduce large facsimile on the blackboard and complete with one or two students supplying the date. Give practice with different types of real forms.	- School enrollment forms for children. - Application for national registration form. - Sample forms of a general nature requiring a. Name b. Postal address c. Date of birth d. Names of children e. Place of birth f. Signature - Blackboard, chalk.
Post office services	- Use the main services offered by the post office.	Discussions on savings accounts. Interpretations of tables of parcels, letters etc. Calculations for simple bills.	Illustrate the teaching with material from the local post office. Invite local post master to give talk on the services of the post office.

General agricultural methods		Teacher teaching/showing types of fertilizers and when to apply.	Fertilizer Measurement
Fertilizers	Students should be able to: - know when to apply fertilizer. - recognize various types of fertilizers - measure surfaces - measure volumes	Demonstration on basal dressing. - marking holes/spacing - digging - measuring fertilizer and application. Top-dressing - measuring distance and depth. - applying fertilizer.	Ruler Primer on General Agricultural Methods Seeds Demonstration plot Implements
Vegetable growing	Students should be able to: 1. Prepare garden site and beds. 2. Have seed bed and seeds. 3. Transplant into beds.	1. Teach different kinds of vegetable seeds. 2. Teach preparation of beds. 3. Enough water is needed.	1. Charts showing seeds 2. Book on gardening 3. Book on use of water 4. Book on marketing and transport 5. Scales

	4. Apply inspecticides using the right quantity and time to apply. 5. Recognize vegetables ready for marketing	4. Teach the use of rakes, forks, watering cane etc. 5. Teach about marketing.	
Family budget	Students should be able to plan a monthly family budget.	Discussion on practical example based on expected income and expenditure for a month. Explain the importance of keeping within the family income. Hire-purchase.	Book - Business methods Also food hills, firewood, clothes and other household requirements, sources of expected income.

Curriculum development at the post-literacy stage

In the discussions above, our considerations have focussed mainly on the alphabetization phase of the functional literacy program. We have not talked directly to the issues and problems of curriculum development at the post-literacy stage.

Curriculum development at the post-literacy stage deals with people who are alreadv literate and, minimally, must help them retain their newly acquired literacy skills. At its best it must enable them to become members of a learning society. While the program may still retain some adults within groups, post-literacy phase must be, essentially, the phase of independent learning. Adult learners must be reached in different ways (not excluding the formal group) and helped to become independent seekers and consumers of information.

The functional literacy program is, essentially, a program that involves both (1) a course of study, and(2) a course of action. But at the post-literacy stage, action comes center-stage. This is the time to help the adult learner engage in praxis, the process of action and reflection through which the realities surrounding him must be transformed.

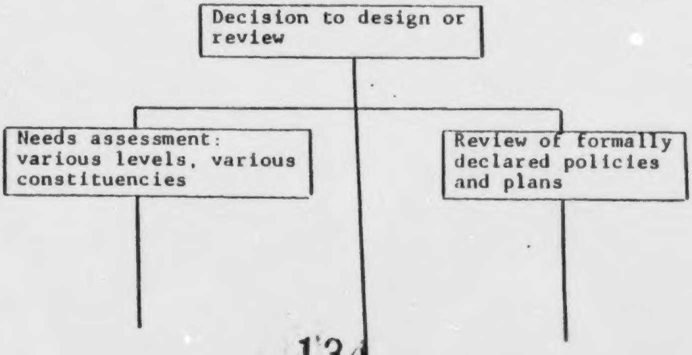
Needless to say, the Instructional Systen Analyzer presented in this chapter can be used to elaborate an instructional system for the post-literacy stage as well.

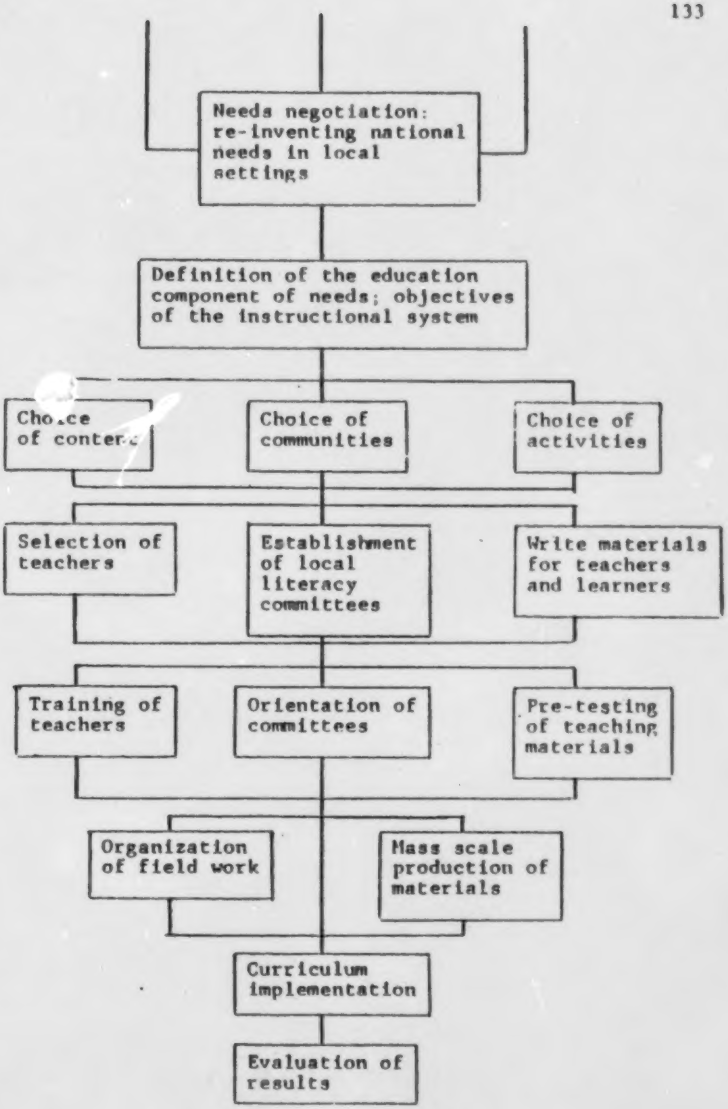
Questions of mobilization and money

Sometimes curriculum developers, as part of the process of curriculum developers have tackled the questions of mobilization of voluntary effort, administration and problems of resources. They have included detailed information on the number of new civil servants that may have to be employed as administrators, supervisors, and teachers; their training and overhead costs; costs on transportation and equipment; costs of production of materials; and, or course, costs of evaluation.

In this monograph, we have not dealt with the questions of mobilization, administration and budgeting. Our emphasis has been on the process: the process of planning the curriculum and designing an instructional system. The steps of the process may be summarized in the form of the following flow chart:

Figure 5.1 Flow chart for instituting a new functional literacy program
(Please adapt suitably for critical reviews of functional literacy projects already underway.)


Decision to design or review
Needs assessment: various levels, various constituencies
Review of formally declared policies and plans


Needs negotiation: re-inventing national needs in local settings
Definition of the education component of needs; objectives of the instructional system
Choice of content
Choice of communities
Choice of activities
Selection of teachers
Establishment of local literacy committees
Write materials for teachers and learners
Training of teachers
Orientation of committees
Pre-testing of teaching materials
Organization of field work
Mass scale production of materials
Curriculum implementation
Evaluation of results

Summary

The concept of instructional systems design is introduced and further elaboration of the key processes of (1) task analysis, (2) learner analysis, and (3) learning environment analysis is offered. An instructional system analyzer is then presented. Considerations for instructional systems design for functional literacy programs are elaborated with the help of the analyzer.

Things to do or think about

1. Do a task analysis of the learning task as stated below:

> "Teaching farmers' wives in East Africa to raise rabbits for meat to improve protein intake by farming families."

2. Do a learner analysis of a typical women's group in rural areas now being served by your functional literacy program.

3. Choose a particular community or a cluster of communities being served by your functional literacy program or project and do a learning environment analysis of those communities.

4. Use the questions in the Table, "Functional Literacy: Considerations for Instructional Systems Design? as a check-list, and then check if your functional literacy program or project asked and answered most of these questions. Based on your analysis, are you able to say that your program

EXHIBIT II

MODELS OF LESSON UNITS
Curriculum Construction for age group 15-25

Subject Area 1	Major problems (constraint) 2	Sub-problems (sub-constraint) 3	Analysis of resources 4	Media or methods 5	Material 6
Increase of income	Un-economic land-holdings.	1. Lack of irrigation facilities. 2. Outdated farm methods, implements, etc. 3. Indebtedness/ money lending in villages. 4. Poor livestock 5. Lack of alternate vocations. 6. Fragmentation of holdings. 7. Lack of internal resources.	A) Existing resources 1. Untimely and illdistributed Monsoons. 2. No rivers & canals. 3. Dearth of wells and tanks/banda b) New resources 1. Jorbondha 2. Dugwells 3. Tubewells 4. Irrigation 5. Better utilisations and improvement of existing resources 6. Tapping new resources 7. Knowledge of Government Schemes.	Discussions A.V. aids Demonstration Field trips Printed material etc.	Any available and suitable material to put the idea across.

EXHIBIT III

CURRICULUM PROPOSALS FOR THE FUNCTIONAL LITERACY PROGRAM FOR ZAMBIA, 1979-81

Content	Objectives	Activities	Instructional Material
Reading Speed	- read faster.	Conduct periodic timed tests of reading speed using graded reading material and comprehension tests.	- Textual material for reading speed tests at various levels of difficulty. - Simple comprehension tests. - Timer.
	- adjust reading speed to suit the type of material.	Practice at reading for pleasure, expository prose, reference material.	- Different types of reading material.
Graphs and charts.	- Interpret more complicated charts, graphs and tables.	Using written data, prepare charts, graphs and tables to show how they are constructed. Allow students to transfer graphical material back into written form. Give practice at preparing written explanations from different types of graphs and charts alone.	- Poultry time/food in-take/ weight correlation graphs. - Pie graphs - Bar graphs - Fertilizer, insecticide. mixture and application tables. - Overlays

has an adequate instructional system already in place to fulfill the objectives it seeks to fulfill?

5. What does the Table, "Functional Literacy: Considerations for Instructional Systems Design" suggest to you by way of requirements for:

(a) training of literacy teachers;

(b) instructional materails needed for the implementation of the instructional system for functional literacy in your project;

(c) curriculum development at the post-literacy stage;

(d) curriculum development for women's clubs or for cooperators;

(e) curriculum for re-entry into the public school system?

6. On the basis of your experience of working with adults, complete the following list:

ADULTS LEARN BEST WHEN (1)..............................

(2)..............................

(3)..............................

(4)..............................

(Continue with your list)

7. On the basis of your experience of working in the field of literacy, complete the following list:

A GOOD LITERACY TEACHER: (1)..............................

(2)..............................

(3)..............................

(Continue with your list)

CHAPTER VI

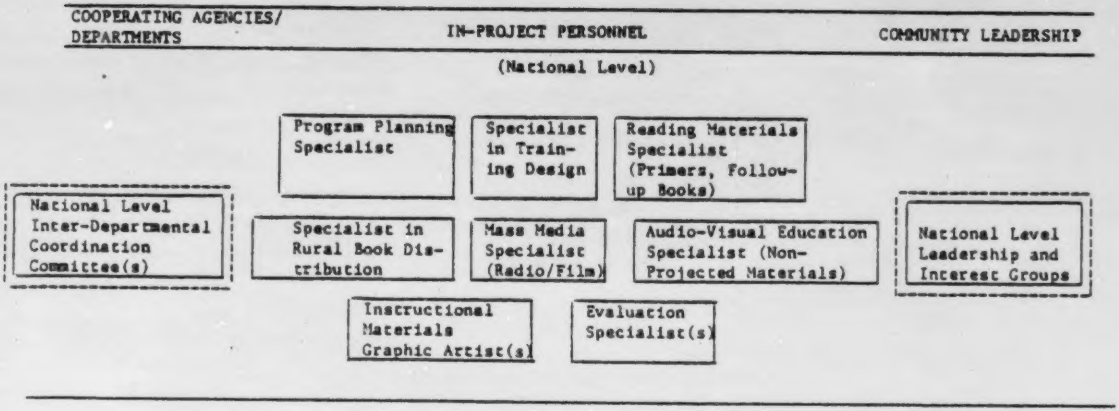
INSTRUCTIONAL SYSTEMS DESIGN FOR SPECIALIZED GROUPS: THE TRAINING OF LITERACY TEACHERS

An instructional system designed for functional literacy would not, by any means be self-activating. For the system to start functioning, we shall require functionaries: literacy teachers, forum leaders, counsellors, supervisors, curriculum developers, evaluators, writers, graphic artists, librarians and, of course, administrators. One of the things, we shall need would be a sub-system of "instructional actors;" and, in turn, we shall have to develop specialized curricula and specialized instructional systems for the training of these various groups of instructional actors.

The Table of pages 137-138, provides a view of the comprehensive training and orientation needs of a functional literacy program in the rural sector. It is not within the scope of this monograph to include curricula for the training and orientation of all of these personnel. Here, we shall choose only one instructional actor -- the literacy teacher--and demonstrate the process of curriculum development for the literacy teacher within the context of a functional literacy program.

Table 6.1 Training and Orientation Needs of a Functional Literacy Program
(Example of a Rural Sector Project)

Legend: Informal/Formal Orientation - - - -
Training as Under-Study ——
Formal Training Courses ━━


COOPERATING AGENCIES/ DEPARTMENTS
IN-PROJECT PERSONNEL
COMMUNITY LEADERSHIP
(National Level)
Program Planning Specialist
Specialist in Training Design
Reading Materials Specialist (Primers, Follow-up Books)
National Level Inter-Departmental Coordination Committee(s)
Specialist in Rural Book Distribution
Mass Media Specialist (Radio/Film)
Audio-Visual Education Specialist (Non-Projected Materials)
National Level Leadership and Interest Groups
Instructional Materials Graphic Artist(s)
Evaluation Specialist(s)

COOPERATING AGENCIES/ DEPARTMENTS	IN-PROJECT PERSONNEL	COMMUNITY LEADERSHIP
	(Intermediate Level)	
Regional/District Coordination Committee(s) and Extension Directors	Trainers of Literacy Teachers and Supervisors Trainers of Radio/Film Forum Leaders Writers-Workshops Directors	Regional/District Level Leadership and Interest Groups
	(Field Level)	
All Extension Staff in the Field Area	Literacy Supervisors/ Counsellors Interviewers and Data Collectors Literacy Teachers Radio/Film Forum Leaders/Monitors Rural Librarians	Local Leaders and Members of Village Literacy/Development Committees

Note: It is not always easy to communicate to the non-specialist the differential specializations involved in the roles and designations given above under the column IN-PROJECT PERSONNEL. For example, the difference between a fine artist and one who has been working with instructional graphics is not easily understood. Non-specialists have a hard time understanding differences between the competences of mass media specialists dealing with radio and TV and those of an audio-visual specialist dealing with non-projected aids. While it is possible to have one and the same person being able to handle more than one set of duties implied in the boxes above, the specialist nature of these various roles must, nonetheless, be understood.

Curriculum development for the training of functional literacy teachers

Once again, we must return to the Instructional System Analyzer, the Table in Chapter 5, namely, "Considerations for Instructional Systems Design: The Case of Functional Literacy." The same parameters and concepts must now be used for elaborating the curriculum and the instructional needs of literacy teachers. One cannot think of training literacy teachers in a vacuum. Training of personnel such as literacy teachers must take place within the context of a particular literacy program, and in relation to the job to be done in particular communities, at a particular time and place. In designing instructional systems, first, for functional literacy and, then, for the training of functional literacy teachers, we are relating to the same one universe of action. The two instructional systems must be in interface with each other. Thus in designing a training system for literacy teachers, curriculum developers will have to keep an eye on two categories of instructional events: (1) between the teacher(s) and the learner(s), and (2) between the teacher(s) and the trainer(s) of teachers. The following figure may help in understanding the relationship:

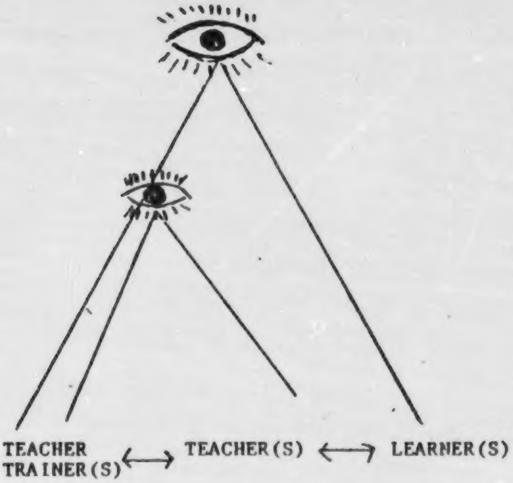

TEACHER TRAINER(S)
TEACHER(S)
LEARNER(S)

Figure 6.1 The instructional system design for teacher training must take in view the teacher-learner relationships.

Let us now present the rudiments of an instructional systems design for the training of literacy teachers.

Table 6.2 Considerations for Instructional Systems Design: The Case of the Training of Literacy Teachers

Parameter/ Concept	Elaboration	System Data/Plans
Developmental context	Raise the same questions as those raised while developing an instructional systems design for the over-all functional literacy program. In addition ask the following:	
	Does the choice of any basic strategy demand (a) a special type of field worker, and (b) a special method for their mobilization?	One program may conceptualize its literacy teachers as being part of a bureaucracy parallel to the one in the formal school system. Another program may see its teachers in the image of party cadres; and yet another may see them as cultural animators. At another level, different modes of mobilization may be assumed. One program may depend upon school teachers; another on voluntary teachers; another on students doing national service; and yet another on army draftees choosing to do educational work, as in the Iranian Sipah-e-Danish. Sometimes all government servants may be mobilized in a crash program as in Cuba.

Parameter/ Concept	Elaboration	System Data/Plans
Sector development considerations	Raise the same questions as those raised while developing an instructional system design for the over-all functional literacy program. In addition ask the following: Does the developmental strategy used in the most important developmental sector demand a particular competence on the part of the teacher?	
Program or project analysis	Raise the same questions as those raised while developing an instructional system design for the over-all functional literacy program. In addition ask the following: In a functional literacy program with strong professional focus, will the teacher be a literacy teacher first and a teacher of technical skills later; or will it be the other way around?	
	In a multi-objective project, what will be the team at the field level? How will roles be designed and how will work be divided between the various members of the team?	The literacy teacher will not have the same job and the same set of duties in all the different literacy programs.
	What will be the relationship between the literacy teacher role and the specialists at some upper level of hierarchy?	
	How much of teacher behavior will be controlled through teacher guides and supervision?	

Parameter/ Concept	Elaboration	System Data/Plans
Horizontal linkages	Raise the same questions as those raised while developing an instructional system design for the over-all functional literacy program. In addition, ask the following:	
	Can some of the instructional burden planned for the literacy project be given to role incumbents in collaborative projects?	
	Will the role design and the jobs assigned to our teachers create problems of jurisdiction?. (That is, will somebody tell us that that is none of our business?)	
	Is our role design tenable? Can the jobs we are assigning to one person possible to do for the same one person, in a practical sense and in the status sense?	In some cultures, one cannot ask the same person to be the driver and the cleaner; a student and a waiter, and so on. In the development field, we have found it wrong to combine the role of the community development assistant with the cooperatives inspector; and of the literacy teacher with the tax collector.
Curriculum development	In developing curriculum for the training of literacy teachers, we will now have to ask each question at two different levels. For example, there are the ultimate clients (the adult learners), and there are the primary clients of this curriculum development effort (the literacy teachers under training). We need to know about both client groups to be	

Parameter/ Concept	Elaboration	System Data/Plans
	able to design an appropriate instructional system for the training of our literacy teachers. Similarly, we will ask the question about content at two different levels: what content will the ultimate clients learn; and what content the primary clients of this curriculum development effort must learn to be effective teachers?	
Clients:	What should the teacher-trainees know about the characteristics of the ultimate client group, the adult learners? What should they learn to be able to relate with this particular group of clients? What are the teacher-trainees themselves like as a client group of the training program? What are their educational, demographic, social class and motivational profiles?	
Contents:	An important part of the content of training will have to be (a) substantive knowledge of the program content to be taught to adult learners; and (b) how to teach such content effectively to the ultimate clients, the adult learners. Typically, it will include: Teaching the primer Diagnosing learning problems Testing achievement Leading group discussions and understanding group processes	

Parameter/ Concept	Elaboration	System Data/Plans
	Putting up demonstrations Putting learners in touch with sources of information not available to the teacher himself Motivating for learning Motivating for community action Record keeping and taking care of other maintenance tasks.	
Learning settings:	What does the learning settings of the ultimate clients require of the literacy teachers?	
	What will be the learning setting for the literacy teachers themselves?	
	Will they be trained in institutions such as the teachers' training colleges?	
	Will they be trained in developmental institutions such as a development training center or a folk college?	
	Will they be trained within temporary systems such as workshops and seminars?	
	Will it be training in the formal settings of the classroom? Or will it be field training?	
	Will it be on-the-job training? Or will the training take place in a simulated situation?	

Parameter/ Concept	Elaboration	System Data/Plans
	Will it be a distance course? Or will it be some combination of the distance course and face-to-face learning?	
Learning methods:	What does the methodological bias of the literacy program demand in terms of the methods to be used in the training of teachers? Will training methods be formal or participative? Will it be experiential learning or will it be pre-packaged instructional materials and simulations? Will it have a problem-solving bias or will it be didactic teaching?	
Materials:	What must the teacher trainees learn about the materials to be used with adult learners? What kinds of materials should be prepared for the teacher trainees? In other words, what should be the nature of "training materials?"	
Delivery systems of instruction and materials	What role will the teacher trainees have to play in regard to the system of delivery of instruction for the ultimate clients—the adult learners?	
	What will be the system for the delivery of instruction for the primary clients of this particular instructional systems design—that is, the teacher trainees.	This question has already been raised in another form under the heading, "learning settings."

Parameters/ Concepts	Elaboration	System Data/Plans
Needs assessment	What must the teacher trainees know about the methods of needs assessment to be able to engage in the processes of needs assessment and needs negotiation within communities? How do we do an assessment of needs of the teacher-trainees themselves in the training setting? How do we develop a system of continuous feedback and professional capacitation based on this feedback on teacher-trainee needs?	
Instructional development Learner analysis:	Raise the same questions as those raised while developing an instructional system design for the over-all functional literacy system. Except that these questions must now be raised keeping the group of literacy teachers in view.	
Task analysis:	Same as above.	
Environment analysis:	Same as above.	
New institutions and social arrangements supporting learning	Raise the same questions as those raised while developing an instructional system design for the over-all functional literacy system; except that these questions must now be raised keeping the group of literacy teachers in view.	

Parameters/ Concepts	Elaboration	System Data/Plans
Evaluation	What must the teacher trainees know (now or later) about the evaluation plans for the program/project? What must they learn about the evaluation system or about the management information system, if one exists, to be able to utilize it and be able to contribute to it? What and how much should the teacher trainees know about product evaluation and testing the effectiveness of their own day-to-day teaching? Coming to the immediate instructional system for the training of literacy teachers, how to evaluate training objectives, training methods, training materials, and training effectiveness, of the teacher-training experience itself?	

Once again, the question can be asked: What will be the end-product of instructional systems design as elaborated above? The answer, once again, is that it is the process that matters; and the product could take many different shapes. It may depend upon the personal preferences of the curriculum development team and it may depend on the needs to communicate the design to different groups and constituencies. Sometimes, it may stay in the form of a table. Sometimes, it may become a narrative document. In some cases, you may badly need graphic presentations to be able to see the process whole but from different aspects.

Whatever you do, if your instructional systems design is adequate, you will have taken the following six steps:

Table 6.3 Steps in Training Design

Step I.	Program Analysis for Definition of both General and Specific Objectives.
Step II.	Listing Activities to be conducted for Achievement of Defined Objectives.
Step III.	Defining and Designating Roles and Allocating Role Responsibilities for Conduct of Listed Activities.
Step IV.	Statement in Behavioral Terms of Competences Required in Various Role Incumbants.
Step V.	Developing a Training Design to Build Required Competences and Conduct of such Training Courses/Work-shops.
Step VI.	Evaluation of Training and Review of Steps I-V.

The tabulation is reproduced from H.S. Bhola's, "Description and Evaluation of a Training Program for Literacy Teachers and Their Trainers," Indian Journal of Adult Education, Vol. XXXI, No. 5, (May 1970) pages 3-6, 14-16.

Summary

The general consideration for instructional systems design presented in Chapter V are now applied to the needs of a specialized group of learners. The functional literacy teacher is chosen as one functionary from the larger team of functionaries needed to implement a functional litearcy program or project; and an instructional system for the training of functional literacy teachers is elaborated.

Things to do or think about

1. Using the Instructional System Analyzer, Table 6.2 included in this chapter as a check-list, check if your teacher training program has raised and answered most of the questions. Does the check-list point out any inadequacies? What are some urgent suggestions you will make to improve the program of training of literacy teachers?

2. Develop a set of considerations for developing:

(a) an orientation program for district level officials from all cooperating ministries, such as, agriculture, health, cooperatives, water development, etc.

(b) a program for the training of field supervisors in a functional literacy program.

(c) a program of training for rural librarians in a functional literacy program at the field level.

(d) a program of training in leadership and human relations at the field level.

CHAPTER VII

INSTRUCTIONAL MATERIALS FOR FUNCTIONAL LITERACY

In the preceding chapter, we presented a synoptic look at the team of instructional actors needed for the implementation of a functional literacy program. We focussed on one of the instructional actors—the literacy teacher—and pointed out how an instructional system could be designed for the training of literacy teachers. But that is only part of the story. To bring alive an instructional system design for functional literacy, we not only need instructional actors but also instructional materials.

In the table on the next page, we have listed the types of instructional materials that would typically be needed by adult learners and literacy teachers in a functional literacy program. In this table, again, we have focussed on the literacy teacher, but one can think also in terms of the instructional materials needs of other functionaries such as supervisors, librarians and many others undergoing training or orientation.

To some the list may look too formalized and conservative. This need not, however, be so. Workers in a functional literacy project could emphasize some materials over others. An emphasis on folk media and indigenous institutions over films may, for example, change the complexion of the program. The exclusive use of community resources

Table 7.1 Instructional Materials Needs of Adult Learners and Literacy Teachers in a Functional Literacy Program

	For Learners	For Teachers
WRITTEN MATERIALS	Primer	Teacher's Guide
	Exercise Book for Writing	
	Arithmetic and Simple Accounting Book	Teacher's Guide
	A Book of Letters of Everyday Life	
	Graded Books (In Series with the Primer)	
	Follow-up Books for Independent Reading	
	Special Newspaper (With Readability Control)	In-service Training Materials (Correspondence Courses or Newsletters)
AUDIO VISUAL MATERIALS	Posters and Charts	
	Drillcards for Language Teaching	
	Flashcard Stories	Teacher Guide Sheets
	Community Resources	
	Folk Media	
	Films	
	Radio, Cassette Tape Recorder	Discussion sheets for use in Discussion Forums
	Press	
SKILL DEMONSTRATION KITS AND PACKAGED COURSES	Demonstration Kits with Tools and Implements	Guide Sheets
	Packaged Technical Courses	Guide Books

in the learning enterprise may make a project become Ghandian or politically radical. Again, how the materials are put together and by whom would determine the complexion of the program or project. The literacy primer may not be ready-made but may be written in the group by the group, with lessons related to the realities of the group as they emerge. Materials, even when these are centrally-produced, may be left "deliberately incomplete" to be completed by the teacher or the learners.

This same list may be re-organized in many different ways. For instance, one could re-organize it in terms of the categories of learning objectives:

Table 7.2 Classification of Instructional Materials by Objective

LEARNING CATEGORY	EXAMPLES OF INSTRUCTIONAL MATERIALS
Cognitive/ Informational	Primer Handbook on numeracy
Affective/ Dramatic	Poster A puppet play
Skills-related/ Operational	Demonstration kit Tools

These categories are not always exclusive. Cognitive material may make affective impact; and dramatic material may have emotions built around arguments with strong cognitive content. However, such classifications of instructional materials do contribute to our understanding of the potential usefulness of various materials. An important classification of materials might be done according to their usefulness with various types of client groups in an on-going literacy program where some adults may have already become literate:

Table 7.3 Classification of Instructional Materials by Objective and Client Group

	Illiterate learners	Semi-literate learners	Literate learners
Knowledge learning	Group discussion Audio tape Radio Film	Group discussion Audio tape Radio Posters	Group discussion Audio tape Radio Books
Attitude learning	Folk media Radio Dramatizations	Same as those for illiterates	Same as for those illiterates and semi-literates. Reading
Skill learning	Demonstration and practice	Demonstration and practice	Demonstration and practice

Yet another important classification of instructional materials might be done according to the level in the administrative system at which the materials are produced:

Table 7.4 Classification of Instructional Materials by Level of Source of Production

ORGANIZATIONAL LEVEL OF SOURCE	MATERIALS FOR LEARNERS	MATERIALS FOR TEACHERS
Center	Films Follow-up books for multi-language translations Technical courses	Training materials General guide books
Province	Primers and associated materials Radio Broadcasts	Teacher Guides
District	Village newspapers Flashcard stories Demonstration kits	Discussion sheets
Sub-center	Flashcard stories Lesson aids Specimens	Discussion sheets
Learner	Folk media Learner made materials	—

Once again, the above should not be looked at as fixed categories or as a conservative prescription for instructional control in the hands of those in the upper hierarchies of the system. There is no reason why learners should not make their own films, but then we know that the hand-held camera and the video-tape projector technology has not yet arrived in the Third World. Where it did arrive, it did in the expatriate's suitcase and it went out in it. In the same way, there is no reason why the teacher should not write his own primer in the field, but, unfortunately, we do not seem to have too many literacy teachers of that calibre.

Production and Utilization of Instructional Materials

Curriculum development and instructional development must deal with the central problems of production and utilization of instructional materials. Production is essentially the problem of message design. Utilization is the problem of bringing a message, frozen into a medium of paper, film or tape, back to life to fulfill the instructional purposes of a chosen group.

Principles of message design

In the production of instructional materials for functional literacy work, the first question relates to the choice of the medium itself.

The choice of medium depends upon two general factors: (a) the inherent characteristics of the medium; and (b) practical considerations of costs, technologies, and learner experiences with the medium.

In the following, we shall discuss only the inherent characteristics of various media:

Printed materials are printed in lines. These include words that make phrases; phrases that make sentences;

sentences that make paragraphs; and so on. Printed material, thus, has to string together the information it seeks to communicate, line by line. Printed material cannot be given or taken in whole, at once; it must be read and learned segment by segment. While, in the hands of a genius, words can move mountains, in ordinary circumstances and in the hands of ordinary people, they have limitations. Printed material is good for presentation of facts and for building arguments; but it cannot communicate atonceness; it cannot portray spatial relationships effectively; and it cannot communicate texture, tone and mood in an adequate manner.

Graphics, such as charts and posters, diagrams and designs, maps and blueprints, photographs and flashcards have the advantage of being able to communicate spatial relationships; perspective, texture, tone and mood. Quite often, one picture is indeed worth a thousand words. But then the pictures are static. They do not move or talk.. If movement must be shown, or operational relationships between parts of a mechanism must be shown, the graphic medium would be insufficient.

Film and video-tape would be the media to use if life has to be shown in its full richness in color, movement and sound. Film has been rightly called by some as the medium of the 20th century. Again, films can be made to involve their audience emotionally in the events portrayed in the film. However, if involvement has to be accompanied by expressive or decisional behavior, then even this medium is wanting.

Simulations, games and some of the folk media such as folk drama and puppet theatre do provide opportunities for expressive or decisional behavior on the part of learners. Learners become participants. In the safety of a "contrived world," only a step away from the real world, they are able to act, express, make choices, compete, lose, win, suffer, and learn.

The first task for the designer of instructional materials then is a choice among the media or media combinations in terms of the learning objectives set for learners. Once a medium has been chosen, then some further decisions must be made in regard to message making.

It should be important to point out here that a particular item of instructional materials can in itself be treated as a problem in instructional system design. One can then, with modifications, apply the same considerations to the production of instructional materials as we applied to the design of instructional systems for functional literacy and for the training of teachers. The modified list of concepts in message design may be seen to be the following:

Table 7.5 Parameters of Message Design

Parameter/ Concept	Elaboration
Context	What part will this particular item of instructional materials play in the total package of materials; and, thereby, in the instructional system?
Objectives	What will be taught-learned?
Clients	Who will be receiving the message through this item of instructional materials?
Content	What will be said? What will be shown? What will be experienced?
Level	What will be the level of content? What words, what idiom will be used? What will be the level of conceptualization?
Treatment	Will the treatment be didactic, dramatic, humorous or alarmist? Will there be pictures or line drawings?
Format	Will it be a closed format or an open format? Will the material be loose-sheaf? Could users add their own slides or pictures? Could they respond? Could they talk-back?
Setting of use	Where will the material be used? In groups? Individually? At home? In travel?
Delivery	What will be the system for distribution and delivery?
Test of effectiveness	What will be the test of effectiveness? What standard of performance will be acceptable?
Feedback	How will feedback be collected and how will feedback be used?

In the following, we will apply these general principles of message-making to the design or production of (1) a book for new literates, (2) a news sheet for village readers, (3) a set of flashcards, (4) an audio cassette for later broadcast, (5) folk media such as puppets, (6) a demonstration, and (7) a lesson in a formal setting. We will be treating these items of instructional materials in varying depth and completeness; the purpose being to indicate how it is done, rather than to present a complete design or a finished product.

The selection of items chosen for treatment here may seem arbitrary but we happen to include all those items of instructional materials in which literacy workers in most parts of the world seem to be interested in. An item of great interest to literacy workers but not included here, is the writing of literacy primers. This, for two reasons. One, because in primer writing we are not really engaged in message making; we are teaching reading and writing. While the primer does have words and phrases and sentences and while these words, phrases and sentences have meanings, the reason of their inclusion in the primer is to teach the mysteries of decoding a language rather than to teach any elaborate message. Second, primer writing is a very specialized task which cannot be treated fairly within the scope of this short chapter.

I. Planning to write a book for new literates

Before undertaking the task of designing a book on a particular subject matter area, some prior questions must be answered:

1. Are reading materials for new literates needed at all?

2. Are reading materials in this particular subject matter area needed?

In a workshop on curriculum development for functional literacy held in Kitwe, Zambia during April 30 to May 12, 1979, a group of participants (a) made a list of books already available in Zambia for new literates; (b) made a critical analysis of available books in relations to readers' interests and needs; (c) developed a new list of subject matter areas; and (d) justified the selection of the topic of "personal safety" to be treated in a book for new literates (Step, 1).

As the process of content definition began, "personal safety" became equated with "The Prevention of Common Accidents." This became the final title of the book. The group decided that a distinction must be made between the organized sector of Zambian life (Army, Industry, Mines, Hospitals) and the unorganized sector (Homes, Fields, Roads, and the Bush). Further, it was decided that only accidents in the unorganized sector should be considered because there is enough teaching going on already on safety in the organized sector of Zambian life, (Step, 2).

In outlining the book, the following chapter headings came to be listed:

1. Introduction
2. Accidents at home
3. Accidents at play
4. Accidents on the farm
5. Accidents in homecraft activities
6. Accidents while hunting and food-gathering
7. Accidents during travel
8. Concluding remarks.

The process of outlining was followed up further by developing lists of accidents that have happened or can happen at home, at play, on the farm, in craft work, while hunting and food gathering and during travel. These accidents were then organized in terms of common causes and common cautions, (Step, 3).

The primary audience of the book were identified as new literates coming out of the literacy programs of the Community Development Department of the Government of Zambia. School leavers, and other literate adults were seen as secondary readers for this book, (Step, 4).

It was decided to write the book in English to provide it as a "mother manuscript" to all the seven language regions for translation into regional languages of Zambia. In writing the English language version, no vocabular lists were used. The group gave itself two instructions: use simple words; and write short sentences. These sentences should not, however, be so short as to sound artificial and stupid, (Step, 5).

A list of instructions were developed for use by translators in the seven regional languages:

1. Develop a vocabulary list including all the words used in the language primer and graded books.

2. Conduct discussions with adults in your language area on the subject of the book, that is, common accidents, and develop a list of words used in these conversations.

3. See how many words in list under 2 above have not been read in the primer or the graded books.

4. Stay as close as possible to the literal translation of the manuscript in English, unless literal translation misguides or is linguistically too awkward.

5. The length of sentences in the regional language translation should remain about the same as in English. Sentences should not be combined to make longer sentences. Summarization or change of sequence should not change the argument being presented.

6. New words should be explained in terms of simpler words already known and should be repeated to make them sight words, (Step, 6).

The choice of treatment was to be simple narrative. Causes were to be explained and cautions were to be taught.

While, dramatization was ruled out, it was agreed that examples should be provided giving names and places and time of accidents that have really happened to bring home to readers that we are talking of real things and real possibilities. The format of the book was to accommodate pictures, (Step, 7).

The book was to have a picture on the cover page. Three different designs were commissioned from the artist. A combination of ideas in two different cover designs gave us a design for the cover, finally, used.

This is certainly not all there is to know in the area of writing books for new literates, but this little case study does point out the important steps and considerations involved in the designing of reading materials for new literates and other new readers.

II. Developing news sheets for rural readers

The news sheet for rural readers (where the newspaper does not reach) is an important item of instructional materials at the post-literacy stage. A news sheet is a message system, talking of many things at the same time. But it intervenes in the lives of rural people in many important ways. Since most rural news sheets are locally produced, with local people gathering the news about happenings in the locality, the rural news sheet makes the rural reader a news maker (because he himself is in the news), a news gatherer, and a reader of news. In socio-cultural language, it means that the rural readers examine and edit their own reality as they see it. This is the first real step towards achieving a literate culture where people are also free.

Once, again, we shall show the steps and considerations in the planning and design of news sheets by including the steps that a group of participants at the Kitwe, Zambia workshop went through.

The group planning the rural news sheet began by considering four questions:

1. To what audience are the news sheets directed?
2. What purposes are the news sheets intended to serve?
3. What topics should be covered in such news sheets?
4. What treatments should be used in presenting different news and information?

Intended audiences. In answering the first question, the group defined four audiences ranked in descending order of importance:

(i) Participants in and recent graduates of functional literacy classes;

(ii) Other literate or semiliterate rural adults;

(iii) Children of 10 to 18 years who have developed reading skills in primary schools;

(iv) Frontline workers, e.g., community development assistants to whom a special column on professional matters will be addressed.

Purpose or message. The group was of the view that the news sheet should serve the following purposes:

(i) To provide new literates with reading materials in order that they may maintain and develop their reading skills;

(ii) To enlarge the amount and number of information and concepts available to readers;

(iii) To disseminate practical development information;

(iv) To motivate readers to desire development, understand the principles of Humanism and instill in them the spirit of self-reliance;

(v) To bring to isolated rural communities the concept of Zambia as a nation—an African and a Third World nation.

Topics for the news sheets. In considering the topics to be covered in the news sheets, the group felt that since the aims of the news sheets were to educate, inform and motivate the readers, it was very important to think of interesting topics to be covered. The following topics were suggested as typical:

(i) Education and literacy

(ii) Health, family planning, nutrition, and safety

(iii) Co-operatives

(iv) Women's activities

(v) News on national development

(vi) International news of interest to rural readers in Zambia

(vii) Sports and recreation

(viii) Humanism and other national ideologies

(ix) Youth activities, and

(x) Guidance for community development assistants doing literacy work.

The choice of a suitable name for the news sheet in the Kitwe region provoked a lot of thinking. More than ten names were proposed. After a long debate the group felt that "People and Development" was the most suitable name for their news sheet.

Treatments in the presentation of materials. A variety of treatments were chosen to include news stories, feature stories, interviews, letters to the editor, editorials, monthly columns, etc. The language to be used was to be the simple every-day language.

Production processes and requirements. Finally, the group focussed attention on the production processes by enlisting the services of two people:

(i) The editor whose main role will be to facilitate readability by going through all the articles to control vocabulary, shorten sentences and arrange articles in order of priority.

(ii) Graphic designer whose role will be to design and make some illustrations to facilitate understanding to inexperienced readers.

Estimates for a production unit that could produce news sheets for distribution in a district were then developed.**

The preceding provides a set of summary considerations for message making in the area of rural news sheets. The establishment of a rural newspaper or a news sheet involves many more considerations. The reader is referred to some excellent materials on the subject published by UNESCO and other sources. (See Bibliography at the end.)

III. Flashcards: telling stories or making points by pictures

Flashcards, as the name suggests are a set or cards, with pictures (or even words), that can be flashed before a small group to tell a story or communicate an idea.

The cards are generally not smaller in size than 8" x 12" so that pictures or writing on the cards is easily visible to a group of 12-15 people sitting around in a horse shoe and receiving the message. Sometimes, teacher notes are written on the back on each card, visible only to the teacher, to help the teacher conduct a discussion and raise pertinent questions.

There is considerable scope for the use of flashcards in functional literacy work. A combination of pictures and words, when adroitly used in flashcards, can be of benefit in many teaching situations.

**The case study material included here is reproduced from the Report on the Production of News sheets by Group II of the Kitwe Workshop, Dr. John W. Ryan, Resource Person.

The most essential consideration in the design of flashcards set would be that a set of flashcards is seen not as an illustrated lecture but as visual communication, as self-sufficient as possible, and with a visual continuity of its own.

In designing a flashcards set:

1. The instructional materials specialist should begin with a verbal statement of the teaching objectives of the message.

2. The idea of communicating this message through a set of flashcards should be reviewed and confirmed.

3. Questions about visual treatment should be decided: photographs, realistically drawn pictures, line drawings, cartoons? The level of visual literacy of client groups will have to be considered while making choices of visual treatment.

4. The producer should then prepare a story board: what cards, will contain what visuals, in what sequence to communicate the intended message? It will be important here to think in terms of pictures and their continuity. This is what will distinguish it from an illustrated lecture.

5. Rough illustrations should be developed; words or labels should be introduced where it is not possible to do without words and the material should be pre-tested on a typical group of clients.

6. While pictures are being finalized on the basis of preliminary feedback, develop discussion notes for each card, to be printed on the back of the card to help the teacher in conducting a discussion.

Some examples of themes suitable for flashcards may be:

1. How to apply pesticides to crops.
2. How a co-operative works.
3. Pre-natal care of mothers.
4. Building a modern home.
5. How flies spread diseases.
6. Causes and cure of malaria.
7. Saving at the bank.
8. Building a storage bin.
9. Building a cow-dung gas plant.
10. Poultry farming
11. Bee keeping.
12. Being a good citizen.

One can convert flashcards into filmstrips or sets of slides. There will be obvious advantages in doing so. Filmstrips, for example, may be easier to handle, mail and store. More importantly, one could get a much bigger image on the screen from a filmstrip or a slide projection. The disadvantage, of course, is that we then become dependent on another piece of equipment and we are confined to those areas where electricity is available and to places which can be darkened somewhat or to gatherings late in the evenings.

IV. Radio: voice "to" the people

Radio, every where in the world today, has become the voice to the people, if not always the voice of the people. Radio is already there in most communities of the world, even those otherwise inaccessible or difficult to reach. In most places, dry batteries are almost as easily available as anacin and Coca Cola or Brookebond or Lipton tea. Distances do not mean much to the radio; nor do bad roads or swollen rivers. It is clearly the adult educator's best friend.

The radio is a potent medium, capable of great immediacy, emotional and dramatic impact. The radio can handle a variety of treatments and formants in the messages it broadcasts, such as:

Talk or lecture
Humorous skits
Slogans and jingles
Motivational songs
Dramas
Interviews and news conferences
Commentaries on events and sports, and
Discussions.

Scope for audience participation is, again, inexhaustible. Experts from the community itself can give talks; learners themselves can write and act out skits; they can write and sing songs; write and participate in dramas; and carry out discussions. The invention of the cassette tape recorder has made this participation a reality. These programs can now be produced by participants themselves and simply sent to the radio station for use as they are, or in some edited form.

One of the groups attending the Kitwe (Zambia) workshop on functional literacy produced a radio program and canned it on a cassette tape. A recounting of the steps taken by the group and a review of their experience should be helpful to those interested in using radio as an instructional aid in their functional literacy programs.

The group began with a review of the agricultural priorities of Zambia. Zambia needs maize to feed the nation. Scarce foreign exchange resources have to be expended to import maize into Zambia. Maize can be grown easily in many parts of Zambia and the country can become self-sufficient in its food supplies. However, farmers do not grow maize because the existing patterns of life, economy and culture hinder all this, (Step, 1).

The message of the broadcast was simple: Grow more maize. A related part of the message: grow maize far enough beyond the subsistence level to be able to sell surpluses, (Step, 2).

The target group was identified as Bemba-speaking farmers in the copperbelt areas of Zambia, (Step, 3).

A learner analysis of Bemba speaking farmers pointed out the following:

(i) They eat cassava as staple food.

(ii) They do grow some maize but only on a small scale and for local consumption

(iii) They are already in the process of recognizing that maize can be a profitable cash crop; and they are already producing and selling small surpluses.

(iv) Resistance can be explained in terms of lack of awareness; the need for much harder work on the farms for growing maize; and lack of needed inputs of fertilizers and high yielding variety seeds, (Step, 3).

The learner analysis led to task analysis and the definition of the content of the braodcast. The problem of lack of inputs was serious but not hopeless. Some farmers did have access to inputs; others could get inputs, if they wanted them badly enough. The decision, therefore, was to produce a persuasive program that would break the resistance against growing maize, and motivate others enough that they would increase production to produce greater surpluses. A list of key words and ideas to be used in the program was also developed, (Step, 4).

The question of treatment and format was considered next. The discussion format was chosen since it could use in the same program both argument and anger, reason and persuasion, wit and rhetoric. The discussion segment was itself to be placed within a larger program that would include some singing and a speech from the minister of agriculture, (Step, 5).

The group then tried to write a discussion script. There were to be five participants in the discussion: chairman, may have a particular point of view of his own but does not try to influence the discussion; Mr. Mulife, a man fully convinced of the usefulness of the functional literacy program and of growing maize; Mwambazi, also a person who has profited from learning to read and from growing maize but is not as forceful as Mulife; Mr. Sichone who does not see any reason why he should go from growing cassava to growing maize and learn to read when he does not see what he could do with his new ability; and finally, Chalwe who presently, thinks as Sichone does, but is not so negative about these new-fangled ideas of learning to read and growing maize when they have always grown cassava.

The group when it started working on a script found the work tough. The script became academic, dialogues lacked spontaneity. They decided to use role-playing techniques to generate a script. One became the chairman, one became Mr. Sichone, one Chalwe, another became Mulife and another Mwambazi. The program when recorded came out as most natural, spontaneous, interesting and impactful (Step, 6).

A feedback session with listeners—in this case, other participants to the Kitwe workshop—revealed that the program was impactful, but the impact was exactly in the direction opposite to the one intended! The person playing the role of Sichone, being the kind of person he was, actually won the argument for not growing maize; the resolution of the arguments by the chairman in favor of growing more maize was a weak resolution. There was a strong undercurrent which suggested that Sichone was right and had agreed with others just to get out of the situation. It was agreed that the group should revise the program. They should work out before-hand what arguments would be used and what would be the strong argument to remove Sichone's objections (Step, 7).

V. Using folk media and indigenous institutions

Indigenous institutions and folk media do not have to be produced, they already exist. Functional literacy workers only have to make use of these institutions and media.

Among the indigenous institutions that functional literacy workers could use would be religious teachers who could teach literacy or could at least help at the post-literacy stage; Kirtans and Bhagan Mandalis (in India); dancing societies (in Tanzania); apprenticeship systems (in West Africa, Asia and elsewhere). Of more immediate interest to us in this monograph, are the folk media, such as: songs and dances, recitations, psychodramas, puppet plays and others. In the use of folk media for functional literacy work, the essential act is that of inducing a new message to an old form. It would be useful to recount an experience with the use of puppets in India to communicate developmental messages.

Puppets teach development in India. Puppetry is an old Indian folk form, believed to go back at least to two to three centuries B.C. There are variations of two basic forms: Marionettes, and Puppets. Puppets, also called glove puppets, are more popular in Northwestern India and even today one can see teams of puppet players going from village to village, with their glove puppets, drums, acetylene lamps; making make-shift stages out of charpais and bed sheets; holding crowds late into the night, singing, laughing, learning the same old truths once over again.

As part of the community development movement in India during the 1950s, there was a considerable interest in folk media as possible vehicles of developmental messages. Literacy House, Lucknow (India), a well-known center of literacy and adult education, chose to work with puppets. A puppet unit was established to produce puppets and puppet stages; puppet teams were created to go into the villages to give puppet shows on educational themes; and training courses were offered in producing puppet heads from old newspapers and in writing skits and plays to be used in the puppet shows.

One puppet play promoted immunization with a story in which the young, handsome son of a rich man was left pockmarked and blinded in one eye after a vicious attack of smallpox. He was not just physically hurt but also emotionally hurt because his fiance, a beautiful and rich girl herself, now refused to marry him.

Another puppet play tried to sell insurance in rural areas by talking of the untimely death of a farmer who had been wise enough to buy some life insurance. The insurance payment saved the land from the clutches of the moneylender and helped in the transition for the son to get hold of things and begin to till his ancestoral land again.

Puppet plays can be simplifications of social and political themes and are quite easy to write. Sometimes, even writing is unnecessary. One has only to give the message to the folk artists, or at the most the story line, and they take it from there. The impact can be fantastic.

VI. Demonstration as an instructional medium

Demonstrations are quite often used in functional literacy programs, but they are rarely well-used. Their role in teaching technical skills in agriculture, home making, sewing and cooking and many other areas is quite apparent.

The following points may be briefly made:

1. Demonstrations should be well prepared. All elements in the demonstration should be at hand when the

demonstration begins and everything should actually work.

2. The demonstrator should be seen as legitimate and competent.

3. The demonstration should be visible to those for whom it is meant; and the demonstrator should be audible to those who are to learn from the demonstration.

4. The learning objectives of the demonstration should be clear and fully shared with the learners before-hand. Learners should also know what they are supposed to do as a follow-up on the demonstration.

5. Demonstrations should invite participation from learners, but such participation should not be invited at the spur of the moment. Participation should be anticipated and well-organized.

6. Demonstrate only the right way of doing things; things that can go wrong should be pointed out verbally.

7. Humor may be used to make the demonstration enjoyable.

8. Wherever necessary, provide a commentary on what is happening, and what the learners should look for.

9. Sometimes, the demonstrator, to condense time of the demonstration may bring ready-made components or half-baked ingredients. In such cases, there should be a discussion of how time relations have been changed.

10. Do not use in the demonstration things and equipments which seem outside the reach of most learners. Improvise

using materials which are readily available to them.

11. Pay utmost attention to safety.

12. Use other instructional materials if you need them: charts, posters, chalkboard, speciments and kits, etc.

VII. Lesson as an instructional event

Finally, the lesson, where a formal lesson is appropriate, can be an important instructional event. Within the formal educational system, where most teaching is handled through lessons, lesson planning is an important activity and a good teacher is supposed to learn how to plan a lesson well.

The same old objectives and strategy calculus works also at the level of a lesson which has to be seen as a message. Thus the typical steps in lesson planning become: writing objectives; knowing what the pre-requisites are for the objectives to be achieved; to design an assessment plan so that we know from the very beginning what it would mean to have achieved the objectives; selecting appropriate teaching strategy; teaching and evaluating.

Prepared instructional materials perform some very important functions in the total instructional process:

1. Well designed instructional materials supplement the teacher's knowledge and skills. Underdeveloped communities are also unskilled communities; there is, in them,

a general lack of trained manpower. In the area of functional literacy and nonformal education, we have to work with untrained or inadequately trained teachers and group leaders. Instructional materials become the bright and dependable assistants to such teachers.

2. Well designed instructional materials structure the curriculum. The kinds of teachers and group leaders, we have to work with in the Third World, cannot function independently as curriculum makers in the field situation. When instructional materials are provided to these teachers and they are asked to work with those materials in a particular time frame, they are able to implement a curriculum, bring facts alive to learners.

3. Well designed instructional materials, especially audio-visual materials, bring to the classroom or to the group, a piece of the distant world which otherwise may be unavailable to a group of leraners in an inaccessible rural community.

Pre-testing of instructional materials: field trials

While we have been referring to the need for feedback from the use of instructional materials and how such feedback should be obtained, it is important to highlight the need for pre-testing and field testing of instructional materials here under a separate heading.

No materials, of whatever kind, should be produced on a large-scale and released to learners in the program before systematic pre-testing and field trials. Pre-testing and field trials of instructional materials can be stated as problems of curriculum evaluation. We shall provide some brief hints on this question in a later chapter.

Utilization of instructional materials

Quite often teachers and group facilitators will be using instructional materials which have been produced by others, and away from their own particular teaching situation. These materials would have been meant to be used by many teachers, in many different classrooms and groups, and spread over a large geographical area. Such materials to be cost-effective and instructionally useful would try to handle typical instructional tasks and would be generalized in regard to learners and teachers and to learning environments. In such circumstances, the problems of utilization become fundamentally important.

Utilization is the label put on the problems of curriculum development dealing with the use of instructional materials to the best possible advantage in particular learning situations. The essential utilization task consists in pedagogical re-editing of the message frozen in an instructional aid, to suit the real and dynamic instructional needs of a real group in a real setting and environment.

Two conditions must be met by the teacher or the facilitator to be able to implement effective utilization:

1. The teacher or facilitator must be aware of the inherent characteristics of the medium to be utilized; and must be familiar with the particular instructional aid that will be utilized with the group. For example, while using a film with his group, the teacher or facilitator must know the inherent strengths and limitations of the film medium; and must be familiar with the content and approach used in the one particular film that will be used with the group on one particular day.

2. On the other hand, the teacher or the facilitator must have diagnosed the learning problem of his particular group and must be clear about how such a film could solve the instructional problem now faced by his group.

It is not within the scope of the present monograph to take each medium and describe its inherent advantages and disadvantages. Nor is it possible to categorize all the different teaching problems in functional literacy to suggest how different media could solve different instructional problems. Only some of the most general principles of utilization can be listed here:

1. Clarify your particular instructional aim or problem. Are you seeking to present something you cannot bring to the group by yourself? (Pest control measures suggested by an expert in a radio talk.) Or do you want to explain

something you cannot do verbally or with available teaching aids? (The working of a tube well through an animated film or film clip.) Are you enriching the group's experience and expanding their horizons? (Scenes from the first Independence day of the nation.) Are you using it to start a discussion in the group? (A set of flashcards on TB.)

2. Preview the instructional aid you will be using. If it is a film, see it by yourself before you project it for the group. If it is a radio broadcast, get all the information you can from the radio station on the objectives and content of the program. If it is a puppet play, learn the theme and if possible see the script of the play. Whatever it is you will use, preview it before using it with the group.

3. The preview would give you information on the physical condition of the instructional aid also. Is the film in one piece? Is the sound track working? If not, will you be able to supply an oral commentary? Is the projector in good condition? Is the tape recorder in good condition to play the tape? Do you have all the flashcards or are some of them missing? How old are they? Have they faded and become impossible to read from a distance? Also what kinds of physical facilities are available in which the instructional aid will be used?

4. Take notes on what you preview. What are the main ideas? What are the key words? What parts may not be

understood because of the language problems or because of the graphic idiom used? How have the ideas been developed? Is there a definite sequence? What are significant details, but which might be missed?

5. On the basis of your preview prepare the group to receive the instructional material. Tell them what to look for. Tell them if they should take notes. If yes, what kinds of notes? Tell them what is good listening and viewing behavior so that others are not disturbed or distracted.

6. At the end, discuss and evaluate the experience. Remove misunderstandings. If necessary re-use those portions which may have been misunderstood.

7. Relate it to your initial instructional objectives.

Summary

The variety of instructional materials needed for the implementation of a functional literacy programs are described. General principles of message making are developed and then applied to the design and production of such diverse materials as books for new literates; news sheets for rural readers, flashcards; radio broadcasts; folk media; live demonstrations; and lesson plans. Brief hints are providrd on the problems of utilization.

Things to do or think about

1. What kinds of instructional materials will you envisage being used for (a) promoting public information on the

functional literacy program; (b) orientation of public leadership at various levels?

2. Develop a proposal for writing a book for new literates on the topic of your own choice.

3. Integrated with the book:

(a) Outline a radio script, and

(b) Develop plans for a set of flashcards.

4. What is the most suitable folk medium in your culture suitable for adaptation for carrying developmental messages to the people? Demonstrate how you will use it taking a specific example of the medium and the message.

CHAPTER VIII

DELIVERY SYSTEMS FOR INSTRUCTION AND INSTRUCTIONAL MATERIALS: A PLAN FOR THE ESTABLISHMENT OF LEARNING RESOURCES CENTERS (LRC's)

The best laid plans for functional literacy can come to nothing, if functionaries do not have appropriate organizational homes; and if their organizations do not assist them in getting to the people they seek to serve. Again, we do not just need to have instructional materials stored somewhere, we need for them to get where they are needed and at the time they are needed. This means that we need to think in terms of a delivery system for the distribution of materials and a network of centers of some sort where people can get together to discuss and learn. A system that would serve the needs of functional literacy, adult education, agriculture education, and indeed, of the total learning society, is suggested below.

Learning resources for development: towards a total system of action

What follows is based on the assumption that planners have clarified the relationships between developmental needs of the community and the role of functional literacy in such a developmental process. They have surveyed existing social institutions, material infrastructures, and indigenous and formal educational systems; and have concluded that a system of litearcy and nonformal education based on learning resources would make sense. It is only then that the question of developing a system of action as now proposed should even arise.

Again, it is not *the* blueprint on the use of learning resources that we offer to curriculum planners. We offer a *planning model* for the systematic development of learning resources, and delivery systems for such learning resources, to meet the unique educational needs of communities engaged in the process of development and change. A comprehensive system of action, a network of institutions from the local to the national levels, is being proposed. It is an open-ended model, built on the theme of adaptability. I have described in some detail the preliminary design of such a total system of action in a separate paper.[1] Only the essential features of such a system can be included in this short chapter.

Figure 8.1 on page 190 is a graphic presentation of the total system. At the top level are what we have called the Learning Society Networks (LSN's). One such national network is described in Figure 8.2 on page 191. Such an LSN could serve the needs of both formal and nonformal education. Also, the nonformal education sector may be as comprehensive as a society might want it to be and may include community education, agricultural extension, family planning, health education and scientific literacy, in general.

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[1] H. S. Bhola, "Learning Resources for Community Education: Design Notes on Delivery Systems," a paper prepared for the USAID/San Jose State University project, *Learning Resources Center-Based Community Education Systems* (LRCBCES)," Project No. 598-15-670-573, November, 1977. ERIC Document No. ED 149 054.

District level learning resources centers (DLRC's) are proposed at the second level below the LSN's. We have not talked of regional centers above the district level since it might be difficult to serve the needs of communities from such regional centers. District centers might be closer both in terms of geographical and psychological distances. Figure 8.3 on page 192 presents a conception of a DLRC.

Community learning resources centers (CLRC's) have been proposed for what we have called second rung communities, communities of 2,500 to 5,000 people. Such CLRC's may have sufficient facilities of their own as shown in Figure 8.4 on page 193. But these may not be seen as centers that can go it alone. The DLRC's above them should serve their additional learning resources needs, as also their training and evaluation needs. Some of those needs may have to be supplied from the national LSN's.

At the first level of what we have called the first rung communities, we do not visualize independent Learning resources centers (LRC's). LRC's in isolated communities of 2,500 or less, with meagre economic resources, may be difficult to establish and sustain. What we suggest instead is the promotion of community groups that discuss needs, make decisions and take actions. These groups should be served from the DLRC's, or from the CLRC's if some CLRC's exist within the immediate vicinity.

Special projects may exist at all the various levels of the system. There may be special projects at the district, or at the second rung community levels, or even in very small communities as some sort of pilot projects.

Summary

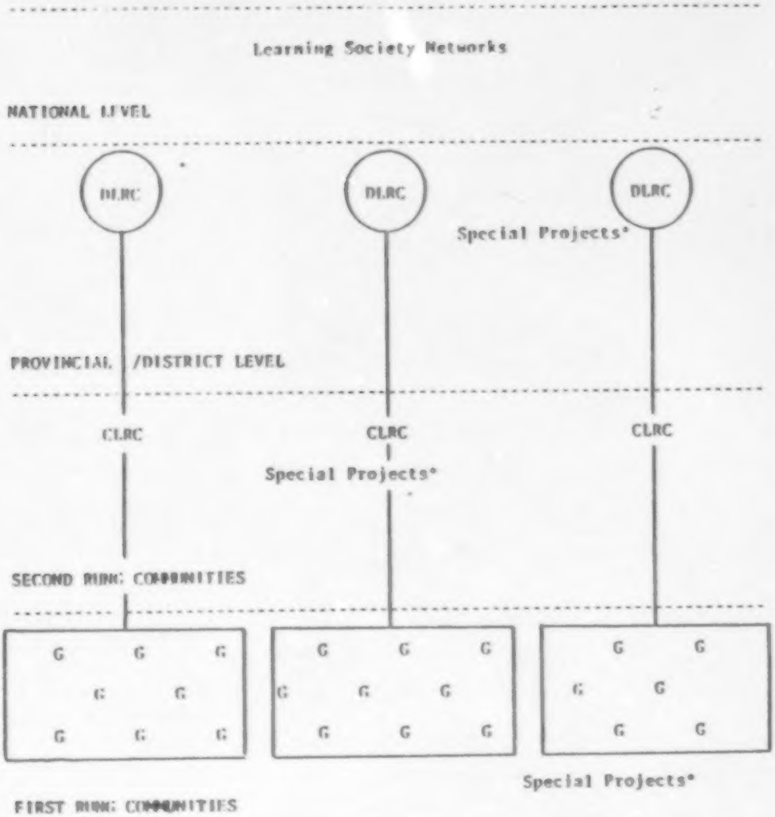
The need for establishing appropriate delivery systems for the delivery of instruction and instructional materials is emphasized; and a blueprint of a model network of learning resources centers is proposed.

Things to do or think about

Analyze the situation in your country in terms of instrucitonal materials delivery systems and determine:

(a) If your situation requires a separate delivery system for the delivery of instruction and instructional materials.

(b) If not, which existing system do you see fulfilling required needs? If yes, what kind of a delivery system would you propose?



Learning Society Networks
NATIONAL LEVEL
DLRC
DLRC
DLRC
Special Projects*
PROVINCIAL /DISTRICT LEVEL
CLRC
CLRC
CLRC
Special Projects*
SECOND RUNG COMMUNITIES
G G G G G G G G
G G G G G G G G G
G G G G G G
Special Projects*
FIRST RUNG COMMUNITIES

Figure 8.1 A plan for the utilization of learning resources for community education for community action showing DLRC supporting community education groups (G's) within first rung communities.

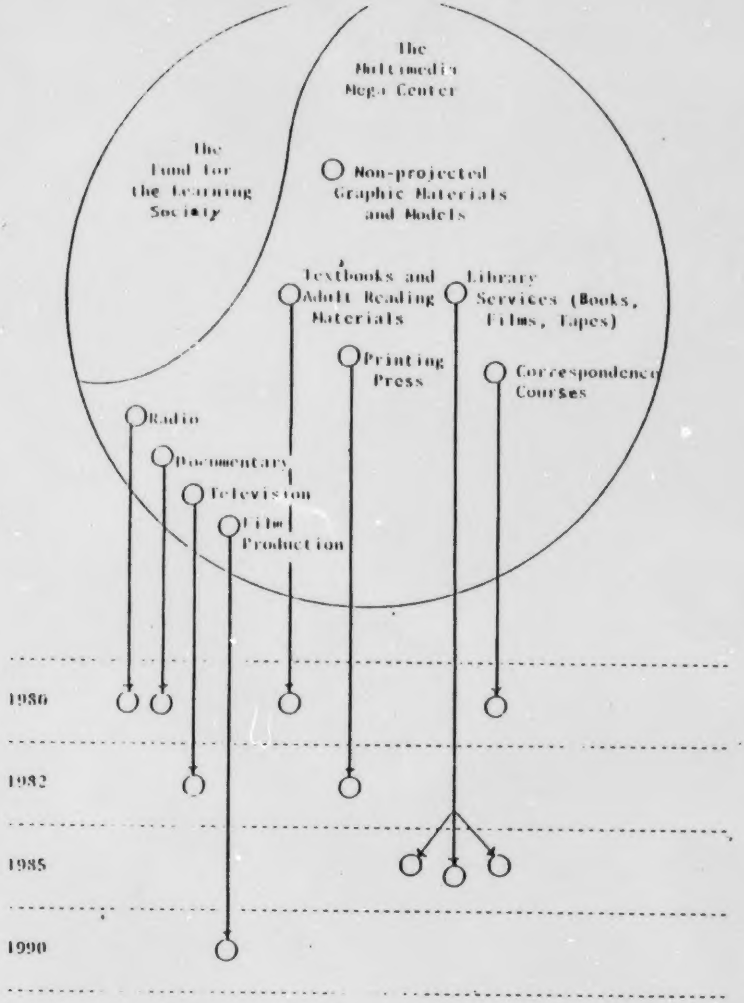

The Multimedia Mega Center
The Fund for the Learning Society
Non-projected Graphic Materials and Models
Textbooks and Adult Reading Materials
Library Services (Books, Films, Tapes)
Printing Press
Correspondence Courses
Radio
Documentary
Television
Film Production
1980
1982
1985
1990

Figure 8.2 The elements of a multimedia mega center, showing a possible pattern of separation and independent institutionalization of various elements.

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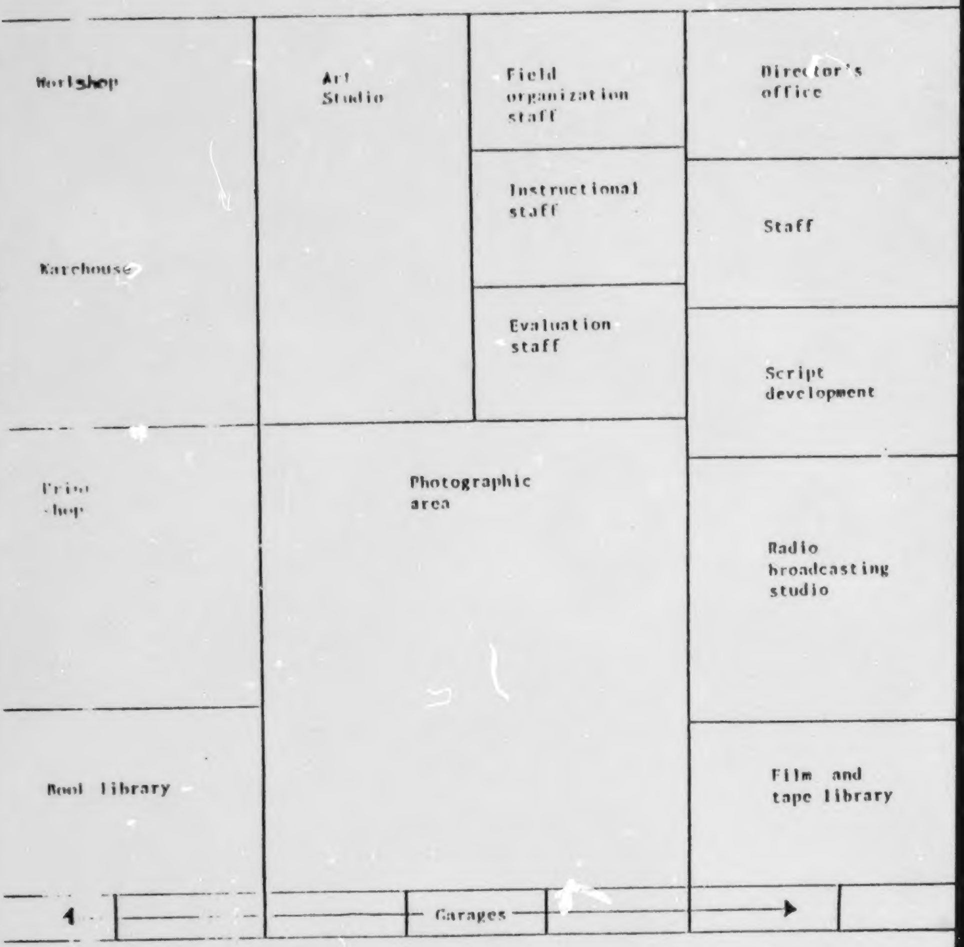
Workshop
Art Studio
Field organization staff
Director's office
Instructional staff
Staff
Warehouse
Evaluation staff
Script development
Print shop
Photographic area
Radio broadcasting studio
Book library
Film and tape library
Garages

Figure 8.3 A working sketch for a DLRC to support community education in the first ring communities.

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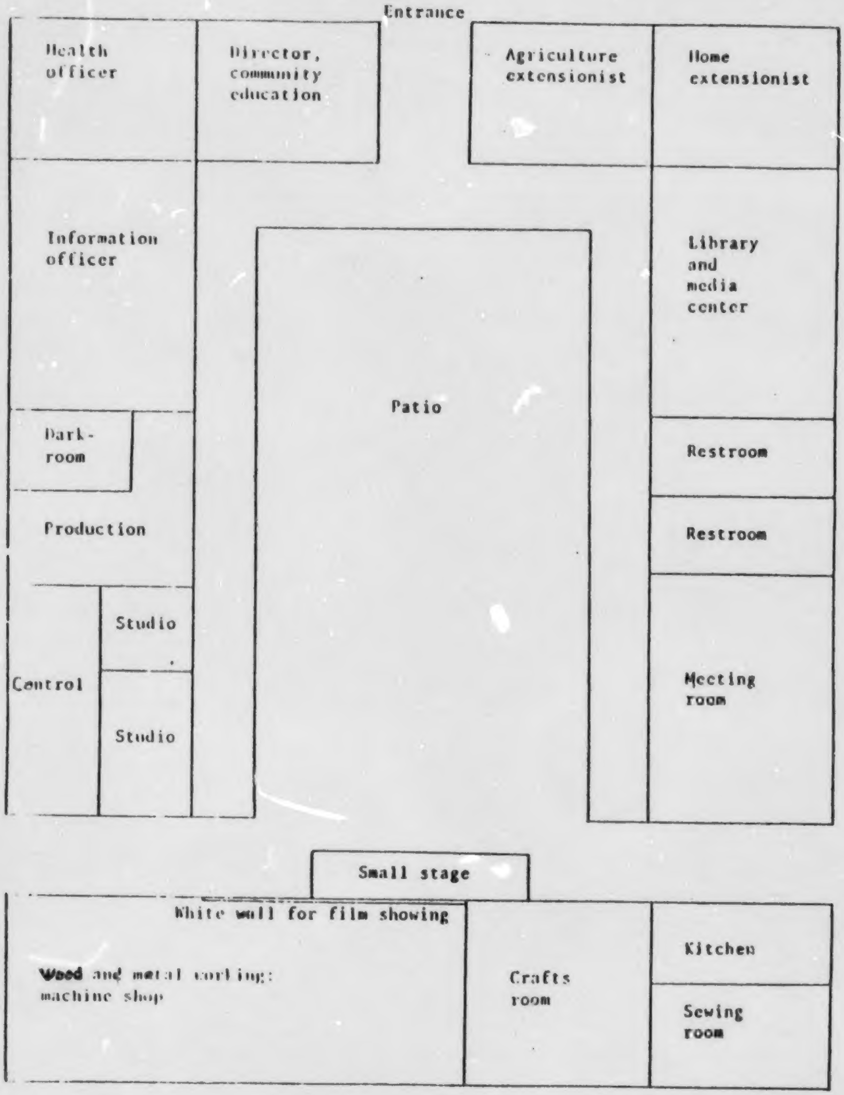
Entrance
Health officer
Director, community education
Agriculture extensionist
Home extensionist
Information officer
Library and media center
Patio
Dark-room
Restroom
Production
Restroom
Studio
Control
Studio
Meeting room
Small stage
White wall for film showing
Wood and metal working: machine shop
Crafts room
Kitchen
Sewing room

Figure 8.4 A proposed design for a CLRC for a community in Venezuela.

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CHAPTER IX

CURRICULUM DEVELOPMENT AND CURRICULUM IMPLEMENTATION FOR FUNCTIONAL LITERACY—IN THE REAL WORLD

Curriculum development for functional literacy is not new, but it is not very old, either. A considerable amount of experience has become available both in and outside of the UNESCO Experimental Functional Literacy program, but a lot of this experience has not been written up. There is a definite need for systematization of available experience in curriculum development and instructional design for functional literacy and nonformal education. Fortunately, beginnings have already been made in this direction.

An "International Seminar on Curriculum Development for Basic Education Programmes" was jointly sponsored by the German Foundation for International Development and the International Institute for Adult Literacy Methods and held in West Berlin during June 12-21, 1978. Ten developing countries from Africa, Asia and Latin America—Brazil, Burma, Colombia, India, Iran, Kenya, Mali, Sudan, Tanzania, and Thailand—were invited to present case studies of curriculum development for functional literacy in their respective countries.

The International Seminar had two main objectives:

1. To provide an opportunity to a select group of developing countries to systematize their experience in the

area of curriculum development in functional literacy and be able to exchange experiences with others; and

2. To bring together in one place a pool of experience (systematized according to the same or similar parameters to enable comparisons) for use in writing a handbook on curriculum development for functional literacy for possible publication in the series of training monographs, Literacy in Development.

A report on the West Berlin Seminar was edited by David Kahler and issued by the German Foundation for International Development, Bonn. Editor Kahler had summarized the seminar case studies for inclusion in his final report. These summaries have now been included in this monograph because of their inherent interest to our readers. Surely, they have many lessons to teach us.

I. Brazil

Professional Semi-qualification Project, Professional
Training Methodology by Occupational Families,
Santa Catarina State, Brazil

The Professional Management Programmes of MOBRAL, the Brazilian Literacy Movement, began in 1974 when educational planners realized the growing need for providing continuing educational offerings for graduates of MOBRAL's literacy courses. An assessment of the vast number of training activities which were being conducted in the country and the lack of co-operation among the organizations conducting that training prompted MOBRAL's action.

The continuing education offering, in this instance, is a multi-purpose training called "occupational families." The objective of the training by means of occupational families is founded on the instruction of trainable and employable people for more rapid entry into the labour force by providing them with a polyvalent professional training in which similar occupations are grouped together. It was felt that such a training methodology respected the participation of new literates in the existing social and economical world. The methodology was intended to integrate the functional principles which would guarantee MOBRAL's clientele educational as well as methodological continuity.

The focal point of training by occupational families is to transmit to the trainee knowledge and practical procedures common to a group of related occupations as well as certain notions regarding hygiene and safety at work. By incorporating principles of functionality and acceleration with the aspect of polyvalence, the methodology makes it possible for the trainee to obtain more adequate professional training which will enable his or her eventual participation in qualification courses for specific occupations.

The Professional Semi-qualification Project in Santa Catarina State was of two phases. The first, which was experimental in nature, was designed to try out the new training methodology, occupational families, on 1,200 rural workers. The second, or operational phase, was designed to reach an additional 3,450 workers, Santa Catarina State was chosen for the pilot project as it was the first state to have reduced illiteracy to under 10%. Forty municipalities were chosen as the project area on the basis of concentration of literate rural workers and predominance of rural work activities.

The methodology used in the pilot project was elaborated by a technical group consisting of an agronomist, a social worker, a human resources expert and an administrator. MOBRAL authorities in the State identified all agencies which could assist either financially or materially in the conduct of the programme. Agreements were signed with local and State organizations for the provision of staff who would serve as the polyvalent instructors for the course.

Needs assessment was conducted in the project area through the study of basic documents on the existing demographic, economic and institutional variables. The identification of the occupational families - as an aggregation of occupations which show similarities in their element - took into consideration existing local conditions, regional variables and government directives for agriculture and cattlebreeding. Four occupational families were identified: farm labourers in food producing plants; farm labourers in temperate climate fruitculture; farm labourers in cattlebreeding;

and farm labourers in timber-producing species.

Basic occupational analysis was conducted, principal tasks were identified and common operations which make up an occupational group were selected. The basic occupational analysis was then verified by the Association of Agricultral Engineers of the State through field research on 100 farms within the target area. Results were then tabulated and the final analysis was made by MOBRAL staff.

Upon the basis of the work, MOBRAL staff elaborated the curriculum for the project. Didactic units were composed of the following aspects: task identification; task description; sequencing of operations; key operations, teaching techniques; place of training; didactic materials and allocation of time. Flexibility was built into the materials which allowed teachers to conduct classes as they wished. Some preferred to begin by developing the whole theoretical basis while others mixed the theoretical with the practical.

Instructors for the pilot programme were agricultural engineers, agricultural technicians and veterinarians from participating agencies in the State. Their training consisted of the basics of the training methodology developed for "occupational families," principles of group dynamics, evaluation techniques and teaching practices.

The programme was implemented by MOBRAL personnel at the State level in co-operation with municipal authorities, municipal MOBRAL committees, rural labour unions, credit associations and the Federation of Agriculture. The organizations were responsible for conducting the motivational campaign, for recruiting learners, securing meeting places, etc. and many contributed financially and materially to the conduct of the programme.

Evaluation of the experimental phase of the project was considered an on-going process and one in which the instructors played a major role. Observations and answers provided by the instructors indicate that the main purpose of the project, that of validating the training methodology by occupational families, was a success. Evaluation findings highlight the interest shown in the project by prospective employers in the region. Many course participants entered the active labour force before the course ended. Local agricultural organizations offered prizes for highest crop production among course participants and interest in the programme remained high from its inception to its closure.

Further expansion of the programme will depend on the continued study of the needs of the rural labour force, the exploration of additional occupational families, and the possibilities of using institutional resources—physical, human, and financial—available for the organization of integrated projects.

II. Burma

The Development of Curriculum and Reading Materials for Literacy Classes among Peasants and Rural Workers

At the time of the socialist revolution in Burma in 1962, the presence of a large number of illiterates, especially in the work force in rural areas, was seen as a hinderance to building a socialist System, to increasing productivity, to achieving national development and to changing illiterates into "new men." The Socialist Republic of the Union of Burma adopted a two-pronged attack on the problem by opening more schools every year, thus facilitating the instruction of compulsory primary education, and by launching a literacy campaign based on the mobilization and organization of the masses.

The literacy campaign, which is centrally administered, is based upon (a) a mass movement, (b) with community participation, (c) using local resources, (d) on a voluntary basis, (e) in a selected region, (f) throughout the year, (g) until the whole campaign area becomes literate. The campaign is implemented at the local level by literacy committees through "organizational power."

As the campaign is voluntary and supported by a mass movement, grass-roots level planning and preparation are required prior to the opening of a class. Local cadres are organized for teaching, facilities and resources are identified and learners are recruited.

Under the direction of the Central Literacy Committee, each State or Division has its own literacy committee and within that structure, township committees are formed. Likewise, literacy committees are set up at the grassroots level.

Burma has opted for a different approach to curriculum development for its mass campaign. The basic concept underlying the Burmese approach, with its concentration on literacy _per se_, nor the functional approach based on work oriented literacy were appropriate in their entirety in the context of the prevailing political, economical and social conditions in the Socialist Republic of the Union of Burma. Instead, what has evolved is an approach which deals first with the acquisition of the three R's and later develops reading habits by introducing work-oriented literature and information issued by agencies outside the Central Literacy Committee and supplementary reader prepared by Central Literacy Committee staff.

Since the curriculum is intended for the mass of the population, rather than a selected occupational group or community, it was necessary to develop a common and uniform curriculum. In doing so, curriculum developers within the Curriculum Development and Production of Teaching materials Sub-committee (CDPTMS), with the help of local communities, conducted surveys and observations in selected rural areas in order to assess and establish learner needs, interests and the environmental situation. These findings were incorporated into the development of curricular materials for both literacy and post literacy activities. The findings of these studies showed that the common interests and needs of rural adults were not so diversified and were mainly clustered around village life and agricultral practices, and were linked to religion, entertainment (utilization of leisure time) and social customs.

The guiding principles of curriculum development for functional literacy work in Burma are that literacy can help national socio-economic development policies, especially in the field of agriculture; that "organizational power" is the key mobilizational force in assuring participation; and that literacy through the use of the Burmese approach would be achieved in a shorter period of time than through functional literacy approaches.

The sole responsibility for curriculum development rests with the Curriculum Development and Production of Teaching Materials Sub-committee. It is not a permanent committe nor can it concentrate exclusively on the area of curriculum development.

As a result, the curriculum which has evolved is one which builds upon the concepts of organizational power of the literacy committees and the nature and the structure of the Burmese language. The design of the present primer is based upon the sound-symbol transference method combined with contents based on common social, cultural and economical needs and interests of adult learners. The materials currently in use have been revised and modified several times since they were originally prepared in 1969. All revisions have been based on problems encountered during the teaching-learning process by both teachers and learners. The process of on-going evaluation allows for the participation of the committees at different levels in the revision and "reinventing" of the curriculum.

The teaching methodology neither attempts to teach nor requires the adult learner to learn all 33 symbols in the Burmese alphabet. Instead, only the simplest and most commonly used symbols are taught. The method takes the learners straight into the symbol-sound production stage instead of requiring them to spell out or name the letter before producing the sound it represents. It is felt that such an approach gives adult learners an immediate sense of achievement.

Major problems arising out of the campaign are those related to staffing, to finance, and to curriculum development. There is a lack of professionally trained teachers, supervisors and co-ordinators for the literacy campaign. The voluntary nature of the teaching staff and the short period of time given to their training are seen as major areas for improvement.

The problem of fianance is one which is not of a governmental nature, but rather that of a voluntary organization which must finance the publication of teaching materials, setting up village newspapers and providing follow up materials.

III. Colombia

Adult Functional Education Pilot Project,

Risaralda Department, Colombia

Antecendents for the Adult Functional Education Pilot Project can be found in earlier national and internationally sponsored projects and training programmes. In the late 1960's and early 1970's, adult education gained prominance in Colombia but no effective way could be found for mobilizing existing national resources to resolve the problem of illiteracy which is greatest among the rural poor and marginal city dwellers.

In 1973, the Ministry of Education decided to concentrate its resources in one department, Risaralda, in order to deal with the educational problems of the rural poor. Risaralda was chosen because of the high degree of co-operation already existing between inhabitants of the department and regional institutions and initiative taken by adult education departmental agencies in facilitiating the inception of a special programme.

Planners felt that functional literacy could be the answer: general knowledge must be tied to vocational training. Educational programmes must prepare the learner for work within his or her environment and for playing a social, civic and economical role that would go beyond the limitations of rudimentary literacy. The programme was designed as a three year pilot project of which the major objectives were: to intensify existing activities which would help reduce illiteracy in the Department; to integrate Basic Education teams more fully into community development and adult education work; to begin functional literacy training; to encourage more effective co-ordination among agencies working in the field of adult education and community development; and to improve didactic materials and work toward the expansion of the total project.

The pilot project was to be carried out by basic education teams which were composed of an educator, an agricultural expert, and health and home economics workers. The teams, which had received special training in field operational seminar situations, were responsible for the design and conduct of needs assessment in their respective communities, the identification of problem areas, and the production and testing of teaching materials and activities. Each team co-ordinated its work with regional staff of the Ministry of Education and with municipal and village literacy committees.

Course contents were based upon the results of the needs assessment. The criteria used in curriculum selection were open education and participant involvement. The methodology used in the project consisted of demonstration, conceptualization and practice. Demonstration allowed the session to start from a real situation using the observation and interpretation of a fact, situation or activity that was genuinely intersting to the adults. Conceptualization allowed the session to analyze a specific fact or situation dealt with in the demonstration using dialogue, analysis, reflection, and discussion in addition to abstract symbols, that is writing and mathematics. Practice by the adults allowed them to develop their skills, attitudes and aptitudes regarding the subject dealt with in the demonstration. The aim of such a methodology was to make the adult return to his own reality with his behavior altered— spontaneously and consciously using what he had learned.

Materials developed for the project included individual reading sheets which drew upon linguistic surveys made at the time of needs assessment. The didactic structure of the sheets combined analytical method and were designed to aid the instructor in his or her teaching task. The team also learned to make and use reading charts for different levels of new readers. Members learned to structure experience charts to stimulate participants in their reading, writing and compositions.

All materials developed for the pilot progamme followed a series of basic tasks which were planned in the following way: formulation of draft instruments; testing and revision of instruments; instrument adjustment and final formulation; content and presentation provision; reproduction of necessary amount; and on-site use.

The Risaralda pilot project was considered innovative and successful in the ways in which it was able to co-ordinate activities and join the efforts of the different sectors which had been working separately on similar programmes. The techniques used in the Risaralda project offered specialized methodological training for the fundamental education team staff as well as training in developing and using suitable materials. Programme organizers considered the most important innovation to be the practical application of a methodology propagated by UNESCO at the theoretical level.

Participants rated the methodology highly. They pointed to its simplicity and clarity and to the fact that it made learning easy. The integration of theory and practice, the relationship between teacher and learner, the work done in groups, and the participation of women in the programme were other positive aspects of the programme which were noted.

IV. India

Non-formal Education Project for Rural Women in Mahbubnagar District, Andhra Pradesh, India

During the past three decades, the Government of India and private organizations within the country have attempted several educational projects geared to the needs of pregnant and lactating mothers and to new born children. Despite these efforts, the results have fallen short of the targets which were set and malnutrition among mothers and children, high rates of foetal deaths during pregnancy and other problems of maternal and child health continue to present major obstacles.

The Social Development Council of India, a premier social science research organization, has long been concerned about the problems of maternal and child health. In 1971, staff members who have reviewed the work done and being done in India in the fields of functional literacy and maternal and child health, nutrition and family planning came to the conclusion that an integrated approach was necessary for tackling the problem. It was also found that there was concurrence with the policies of the Government of India that also favoured integrated programmes. It was noted that one of the major barriers to the development of integrated programmes of education, health and nutrition was the low level of literacy among rural women, which was as low as 12.9% in 1971.

For these reasons, the Council thought that an experimental project that would test the effectiveness of functional literacy linked to the subject areas of health and nutrition, along with integrated services, would be a way to proceed. The experimental programme was in operation from 1972 to 1975 and was designed to investigate the most effective way of bringing a basic package of maternal and child health services to the three most vulnerable groups in rural areas: pregnant women, lactating mothers and young children. The project was supported by UNICEF and sponsored by the Department of Social Welfare of the Government of India. It was of two phases, the first involving eight villages, and the second which was expanded to include 22 villages.

The project was conducted in Mahbubnagar district of Andhra Pradesh in the south of India in an area which is drought prone and considered socially backward. Female literacy in the area was only 4%.

The basic package of integrated services offered by the programme had three components: an educational programme to arouse the interest of rural women in problems relating to pregnancy, childbirth, lactation, child health and to focus their attention on practical problems; a medical programme which offered antenatal, natal and postnatal services to mothers and infants; and a supplementary feeding programme to bridge the most critical nutritional gaps in the diets of pregnant women, lactating mothers and young children.

Four experimental groups were used to test the most effective way of delivering these services: functional literacy classes (FLIT); mother-child centres that had three programme components: nonformal education, health services and nutrition services (MCC); a combination of FLIT and MCC; and an experimental control group in comparable villages with no additional inputs other than the normal government development programmes.

Detailed needs assessment was conducted in order to identify problems relating to maternal and child health, to nutrition, to family planning and to literacy. Surveys included a group survey, an individual survey and an exploratory dietary investigation. The group survey involved 241 women in 27 villages. In this way, community norms on a variety of information was assessed. For the individual problem survey, contact was made with 7 or 8 women each in 21 villages. The object of this survey was to gather as much information as possible about nutritional and health practices so that results could be used in the preparation of educational materials. Some of the interviews were tape-recorded so that linguists could determine the syntax and structure of the local dialect. This again was used in the preparation of materials. Results of the dietetic survey were used for the feeding programme.

A workshop was conducted in order to develop the curriculum for non-formal and functional literacy programmes.

Participants included writers, linguists, adult educators, photographers, resource persons, consultants and directing staff of the project. Findings of the survey were made available to those participating in the workshop. Materials were developed along a problem solving approach. Materials developed included 17 sets of cards, each having three to five cards, for use in functional literacy classes, teacher related materials, a source book on each topic discussed, flash cards, photographs, charts and posters.

In addition, five folders written in simple language on the main problem areas of the curriculum were also used as neo-literate reading materials. It was envisaged that literacy training around maternal and child health including imparting of knowledge would lead to changes in attitudes and adoption of better practices.

The non-formal education programme was defined as a discussion-cum-demonstration programme structured specifically to meet the needs of mothers. The materials for this programme consisted of a discussion guide, a lesson plan and visual aids like photographs, charts and posters. The teaching strategy involved showing the visuals to participants and then having a discussion around the message in the visual, with the group then considering solutions to the problem and possible action to be taken.

The main functionaries of the two programmes were health educators and functional literacy teachers. Special training programmes were arranged for all field personnel. Initial training sessions were found to be weak and special materials were designed to supplement this training.

Materials were tested on a continuous basis. In the first phase of the programme, the curriculum was prepared on the basis of problems that were culled from the individual and group problem surveys, the dietary survey and from the taped interviews. Thereafter, a feedback system evaluated each lesson of the curriculum for revision or possible modification.

The experience of the first phase further helped in revising the materials. Three factors were taken into consideration indeciding upon the content of the lesson: the capacity of learners to receive and assimilate information; inherent handicaps that arose due to the social and economic conditions in which the participants lived; and the potential and the limitation of the educators in understanding the information contained in the lesson plans and their ability to use it effectively. Continuous feedback ensured evaluation of each stage of the curriculum development process and the preparation of materials.

V. Iran

The Experimental Functional Literacy Project for the Social and Economic Promotion of Rural Women, Saveh Sharestan, Iran

Despite literacy activities in Iran during the past thirty years, the rate of illiteracy among rural women remains high. Inadequate levels of education among women and the traditional attitudes towards their role in society has resulted in a low rate of economic participation of Iranian women.

Realizing the importance of promoting literacy among rural women and the need for designing special programmes for them, the Women's Organization of Iran, (WOI) formed a Research Group for Functional Literacy and Training in 1973 with the assistance of UNESCO. This research group was responsible for the execution of the Experimental Functional Literacy Project for Women in Saveh Sharestan.

The objectives of the project were to determine the needs of rural women; develop effective methods and materials for the education and training of rural women throughout the country; and test the effectiveness of functional literacy methods in meeting the needs of rural women. Another major concern of the Research Group was to promote the social and economic integration of women into Iranian society.

The area chosen for the experimental project was the Sharestan of Saveh, some 120 kms south and east of Tehran. The Sharestan consists of 733 villages with a total rural population of 93,337 inhabitants. Of that number, 17,849 were literate (19.1%). The literacy rate among women was only 4.9%. In terms of economic participation of women, only 14.2% of the women in the Sharestan were economically active.

The experimental Project in Saveh tried to integrate literacy with various aspects of life of rural women so that they could apply it as a means for improving their social and economic lives.

In designing the educational programme for the Saveh project, an effort was made to determine the needs and the potential of the rural women in the area. An assessment was also made of the types of services which could be provided by in response to these needs and which could also improve the social and economic lives of the women.

Before the project was initiated, basic data was collected in the project area. One questionnaire was prepared by the Research and Training Unit to collect information about the population, about the potential of the area and of the existing services. The characteristics of rural women as teachers and mothers, as producers and consumers were considered in a second survey.

The content of the curriculum and the specification of measurable objectives was determined by the needs and interests of the target population. For this purpose, the degree of participant interest in each subject area was determined. The survey showed that rural women were interested in such areas as sewing, cooking, knitting, general information about Iran, carpet weaving, and communal hygiene.

An interdisciplinary team was responsible for the development of texts and teaching materials. Materials preparation was an on-going process and the materials underwent a number of revisions and modifications. The materials were developed on the basis of the principles of functionality, participation and integration. Besides relating the materials to the needs and problems of participants, an attempt was made to integrate all the educational materials into a meaningful whole.

Content of the instructional sequences was determined by the measurable objectives in relation to general and technical content and in conjunction with the teaching of the three R's. Thirty-three sequences were prepared. Each sequence consisted of three sections: general and technical content, language and mathematics. Teacher related materials were designed for each of the 33 sequences.

The project was operational in 17 villages. Thirty-five instructors and six trainers were selected from among the women in the villages. A three week training programme was conducted in order to familiarize the instructional staff with principles of the programme and its curriculum. Inservice training every two weeks during the course of the programme facilitated regular and continuous training of the teaching staff.

From the beginning of the teaching process, evaluation was conducted on a continual basis. On the basis of the results of the evaluation, those instructional and organizational methods and techniques which were not effective were discontinued.

Since the ultimate objective of the Saveh Project was not merely to provide adult women with reading and writing skills or even increase their productivity, but to encompass their whole lives, the evaluation of the project was not a simple task. The evaluation system consisted of observations, identification of problems, collection of information and statistics for clarification of causes of problems, assessment of changes and continuous improvement of activities of the project. The evaluation system which collected statistics and information was useful in preventing the occurrence and continuation of mistakes, in creating necessary changes and in directing the activities towards the achievement of the desired goals. Evaluation was carried out in three major educational domains: cognitive, affective and organizational.

The first stage of the Experimental Project ended in November of 1974 after six months of operation. The second phase of the Project lasted from November 1974 until May 1975. Both phases provided useful lessons for designing functional literacy programmes for rural women in Iran.

VI. Kenya

The Special Rural Development Functional Literacy Project, Mbere, Embu District, Kenya

In 1971, a Special Rural Development Programme (SRDP) was initiated in Mbere, Embu District. The area is one which receives little rainfall and consequently has low agricultural production. There is a high rate of male migration from the area and over 80% of the population above age 20 is illiterate.

The SRDP was an attempt to bring about an integrated development in the rural areas through greater participation of the officials and of local people. Rural development had been defined by the Government of Kenya in 1970 as "the social and economic transformation of all its people." SRDP was especially designed to develop the capacity of the local people to work for themselves through the use of the training opportunities and intensive self-help programme. Of particular significance to rural development was the provision of training and education for adults. Functional literacy was geared to the improvement of the general occupations of the people and formed a major component of the SRDP.

The literacy programme did not concern itself only with teaching reading, writing and arithmetic but related these skills to other adult needs such as knowledge about changes in farming and other related areas, and attitudinal change.

In the functional literacy course the specific objective was for the adults to acquire a vocabulary of 1,500 words. This capacity was to be increased by a guided follow-up programme of one year's duration.

During 1969-1970, a UNESCO expert attached to the Department of Social Services, which administered the programmes at the national level, carried out a survey to determine the viable developmental activities with which literacy could be integrated. The survey involved visits to provincial and district headquarters where meetings were held with planning officers, community development officers and adult education officers. During these meetings, developmental programmes which seemed to be hampered by the problem of illiteracy among the participants were discussed. Consequently, a functional literacy programme was designed in order to strengthen the literacy skills of farmers thus enabling them to be stronger members of newly formed co-operatives. Likewise, functional literacy was integrated with programmes designed for the introduction of new crops and improved agricultural practices. As malnutrition was another problem in the area, nutrition and family planning education were other programmes that could have a literacy component.

Needs assessment was conducted by a UNESCO adviser based at national project headquarters. Information was collected through meetings with provincial and district officials. Little attention was given to consultation with the target population. Curriculum preparation was thus based on consultation at the provincial level. The foreign adviser had the overall responsibility for deciding the content and the methodology for the preparation of the curriculum.

Instructors for the programme were selected from among formal school teachers and agricultural and health extension agents. There was a trainer for every 10-15 centres whose job it was to train the instructors. Initial training for both the trainers and the instructors was given by the project officers from Nairobi, with the help of a UNESCO adviser. Training included the preparation of basic materials to be used in the centres.

Monitoring of the Mbere Project was a concern of all of the staff ranging from those at the national headquarters down to the literacy class instructors in the centres. In 1975, the Institute of Development Studies at the University of Nairobi carried out an evaluation study of the SRDP. The study made far reaching recommendations on the basis of the shortcomings of the programme. The need for designing materials in the language used in Mbere was emphasized. This recommendation was made because of the choice of Kiswahili as the language in which the materials were written despite the fact that the majority of potential participants of literacy programmes in Mbere did not speak the language.

The report also stated that perhaps the programme was a bit too ambitious as it not only tried to teach participants new knowledge about farming and household management but it also attempted to teach them a new language.

The report suggested that the primers should not have been translated from the English and perhaps they should have been written by a team and not one individual. The report cautioned that the notion of functionality required not only the preparation of teaching materials that were suitable for the everyday experiences of the participants but also required the involvement of local extension workers in every aspect of the project.

Inadequate testing of materials, the use of difficult words and phrases, a curriculum which was mainly agricultural based, the complicated use of language in radio broadcasts and instructor domination of post-broadcast discussions all contributed to a high rate of drop-out among adults participating in the Mbere programme.

VII. Mali

Functional Literacy Experience in a Groundnut and Cereal Operation in Mali

Since independence, the Government of Mali has placed considerable emphasis on promoting agricultural diversification and on increasing agricultural production. In 1972, a national decree declared that development programmes should devote themselves to increasing rural productivity through every possible means.

The creation of the Groundnut and Cereal Crop Station grew out of a need to design a project which would meet the requirements of promoting agricultural diversification, increasing agricultural production and increasing rural productivity. The organization mentioned above was responsible for an integrated development plan that consisted of promoting the production of groundnuts and cereal grains, marketing the agricultural produce, planning and maintaining rural roads, establishing sanitation projects and veterinary projects and the promotion of literacy and training of people in rural areas.

From its inception, the Groundnut and Cereal Crop Station Opération Arachide et Cultures Vivrières, (OACV), took an interest in all the aspects of the lives of the people living within its zone of intervention. Its major aim was not only that of economic gain but also of the well being of all the participants of the programme. OACV intended to turn interested peasants into truly modern farmers who could not only increase production but also learn to manage it. Functional literacy was regarded as the only educational system that could bring about this overall development.

The literacy programme in OACV had its beginnings as a micro-experiment. It arose out of a precise need: that of enabling farmers to control the marketing of their groundnut production and that of bringing them to trust the groundnut purchasing teams of OACV. As Chinese scales had been imported for use and these were distrusted by the farmers, the literacy programme was geared to the understanding of these scales and towards functional numeracy. The experiment proved successful and was subsequently expanded to other areas in the production zone.

Before the expansion of the programme, needs assessment was conducted to assess the educational needs of farmers in the zone. The study was conducted by a multidisciplinary team consisting of an evaluator, a graphics artist, a materials producer, and a training specialist. The method of research consisted of basically bringing together the functional literacy staff, the staff of OACV and village authorities for working sessions. The researchers were equipped with a chart and a questionnaire to enable them to note the characteristics of the villages chosen for literacy programmes. In each local, the researchers addressed themselves to the village chief and villagers.. Questions were first posed to the village chief and then to the villagers.

Needs assessment resulted in special consideration of the following areas for programme development: agriculture, ecuation, health and hygiene. The preliminary study revealed that farmers wished to learn agricultural extension methods in order to increase their production. They also wanted to know some elementary practices in health and hygiene in order to improve the conditions of life in the villages. Aside from this they were concerned about their relations with the administrative authorities in matters relating to taxation, and the drawing up of birth, death and marriage certificates.

The teaching materials and the content of the professional training sessions were conceived and prepared by the National Production Centre in collaboration with technicians from OACV. The literacy texts were edited by a specialized branch of the National Production Centre. Educational problems that were highlighted through the basic study were developed into themes for extension work and professional training. Two sets of materials were developed. Initially, the emphasis was on literacy. Later it changed to an emphasis on the professional education aspect.

Materials which were produced for use in the project employed a semi-global method of teaching reading. These materials, which included photographic illustrations as well as drawings were bound together into booklets entitled, "Tigasine." As production was a major concern, agricultural extension themes recurred frequently in the booklets. Next in order of importance and presentation in the booklets was health education. Only one civic education theme was presented: the payment of taxes.

Special materials were developed for the animators working in the programme. These included a complete set of cards which offered guidance on technical information for use in the socio-economic and professional training sessions, and language nad arithemetic cards along with the instructions for developing lessons.

Radio was used in training teachers. The broadcasts, which were prepared by the central staff, provided efficient guidance and offered practical advice on educational themes as well as on the organization of socio-professional sessions. The broadcasts also provided answers to work related questions submitted by teachers and thus created a permanent system of feedback between the National Centre and the literacy centres.

Evaluation preceeded, accompanied and followed all the developmental projects in this programme. Basic evaluation determined the educational needs of the community. During the execution of the programme, formative evaluation improved the efficiency of the system. Training was based on the needs and concerns of the illiterates and of the national bodies of development.

In 1975, an evaluation study was conducted with the support of the World Bank. The main function of evaluation was seen as a system of furnishing guidelines for improving methods of programme execution and for organizing a permanent feedback system within the project rather than formulating final judgments about the results and consequnces of functional literacy.

VIII. Sudan

Women's Social Welfare Programme, Gezira Scheme, Sudan

The Women's Social Welfare Programme in the Gezira Agricultural Scheme, Sudan, began in 1975. Although adult education and community development were not new to the Gezira Scheme, little systematic attention had been given to the social and economic education and integration of women within the development project.

The Social Welfare Programmes draw in part from long established concern for education within the Scheme, from Sudanese participation in the Experimental Work Oriented Literacy Programme conducted by UNESCO and most recently from planning done in conjunction with the 1975 National Literacy Programme.

The programmes, which stress the improvement of the social and economical position of women within the integrated development project at Gezira, train women in skills related to household and agricultural duties while attempting to reduce the high rate of illiteracy among women. Elements of functional literacy, women's welfare, home economics and rural crafts are integrated into the curriculum which forms the basis of the programmes.

Needs assessment within the target area revealed that the area, which is rural in nature, was one in which social relations and change were slow, especially as related to the position of women. A need was identified for the teaching of home economics and home management, especially in the area of production of food stuffs and money management. Knowledge related to health and existing health practices were high as a result of past health education programmes within the project area. Women were found to be both socially and economically dependent upon their husbands or fathers and, although granted legal rights by law, few took advantage of their rights to participation. It was also seen that lack of access to information on home economics and home management was a major obstacle to the greater social and economic integration of women.

Past programmes for women had been developed without taking into account the opinions of participants from the target area. The results of the above mentioned needs assessment were used in the planning and implementation of the Social Welfare Programmes in 1975.

The present programme has four main elements: 1. functional literacy, in which women can acquire communication skills and which motivates women to continue educational pursuits and effectively use knowledge gained in the programme; 2. women's welfare, in which the programme is geared towards acquiring knowledge, skills and attitudes related to home management and home economics, health, hygiene and social and family obligations; 3. home economics, in which the intention is to provide opportunities for training in new methods or improvement of existing practices; and 4. rural crafts, in which the intent is to train participants in handicrafts and better use of leisure time and preservation of cultural heritage.

Programme content is based on sector text books, which are produced nationally, and teaching materials developed at the local level. The basic text for the programme, "We read and manage" is followed by two texts in the advanced stages of the course as well as by diversified materials in the follow up stage.

The curriculum is based on an educational units approach where topics are integrated for the purpose of acquiring the skills needed for dealing with the immediate environment. In the Social Welfare Programme, the seven units include: the child; the mother; diet; clothing; housing; the village; and the nation. Topics in each unit are divided into general knowledge, skills, attitudes and practical activities.

In implementing the curriculum, teachers are allowed to decide which methodology or combinations thereof are the best for the presentation of a particular topic. Educational materials for the teacher include an educational units reference book, a preparations notebook, audio visual materials, questionnaires for compiling data to be used in follow up work and a technical reference book. Learner materials include an activities notebook and texts in addition to basic classroom materials. Procedures for programme implementation are presented in detail in the educational units reference book for teachers.

Evaluation in the Social Welfare Programmes is seen as a fundamental process contributing to the constant improvement and development of the educational programme.

IX. Tanzania

Needs Assessment in Curriculum Development,

Tanzania

In Tanzania, the long term development goals are embedded in the underlying policies of building a self-reliant socialist state. It is felt that education—whether formal or non-formal—has a major role to play in "ujamaa," socialist reconstruction. As a result, emphasis has been placed on preparing the entire population, especially adults, for the desired changes.

The work oriented functional literacy project in Tanzania emerged from a request by the Government of Tanzania to UNDP/UNESCO for the purpose of establishing a work-oriented experimental literacy project closely linked with agricultural vocational training. The request was based upon a concern with the increasing rate of relapse into illiteracy by those who had participated in traditional literacy offerings by a lack of proper planning and co-ordination of literacy efforts; by the inadequacy of traditional agricultral practices and a lack of adequate equipment and extension personnel; and by a significant rate of illiteracy among the adult population.

The Sixth Economic Zone was chosen for a selective and intensive approach. The area, which was comprised for four regions, had been given high priority in the Five Year Plan and was an area in which people had previously demonstrated their eagerness to learn and an area in which the introduction of new skills would enable people to increase productivity and raise their standard of living.

Major goals of the project were to discover and develop practical and effective teaching and learning materials for the implementation of an agriculturally-oriented functional literacy project; to evaluate, on a scientific and continuing basis, the results of its own activities; and to provide, through pilot programmes and their activities, realistic data, guidance and orientation for the literacy campaign in Tanzania.

Specific goals included teaching illiterate men and women basic literacy and numeracy as related to agriculture; to help them apply this new knowledge to solve their basic economic, social and cultural problems; to prepare them for more efficient participation in the development of their village, region and country; and to provide necessary and adequate reading materials for follow up work.

Needs assessment for the pilot project was carried out at both the micro and macro levels. Existing knowledge, attitudes, skills and practices on agricultural topics were examined at the local level while extensive use was made of secondary data at the regional and national level. After collection and analysis of data was complete, a list of technical, economic, socio-cultural and cognitive problems was made.

The functional literacy programmes while introducing all elements of their particular subject matter in accordance with its own internal logic, strove to present material through a problem centered approach with special stress on important bottlenecks to higher productivity in the activities concerned. In each case, participants learned to identify and solve specific common problems that lessened their productivity and hindered their achievement of a better standard of living. Programmes were designed so that participants would see the problem as a situation subject to change rather than condition beyond their control.

Vocational training elements were successfully integrated with literacy in three ways: through integrated teaching materials; through linkage of verbal knowledge of vocational skills by the teacher and immediately after with practical skills on demonstration plots; and through actual work on class demonstrations plots.

Much time and effort were given over the preparation and printing of teaching materials. The integrated writers' workshop was the principal method used in the development of materials. The writing team included a methodology expert, a linguist, a book production specialist, a subject matter specialist, a graphics and lay-out specialist and a Kiswahili language specialist. Primers were produced for each programme together with related teacher materials. Supplementary materials such as posters were also produced by the integrated writers' workshop.

The major advantages to such an approach were felt to be the accuracy and relevance of the materials which reflected a consensus of a multidisciplinary team; the speed achieved through a shortened editing time and the validity of the selection of main problems for consideration by representatives of all agencies and departments entering into the collaboration.

The teaching approach used was one in which discussion was a key element. Discussion prior to the lesson provided valuable information to the instructor and served as a basis for the introduction of new material. Discussion also gave confidence to the learners as it made them active participants in the teaching process.

The pilot project ran for a period of two years. After that time, it was expanded into a national undertaking. While the necessity for revision of some of the programmes was seen, pressure was greater to produce relevant teaching programmes for the different economical zones of the country.

The results of the pretesting of one of the programmes, Home Economics, is presented in this study. Such pretesting provided valuable information on specific problems in the orientation of proved that demonstration guides could easily be used in the preparation of follow-up materials for both second stage litearcy activities and independent reading.

X. Thailand

Functional Literacy Programme, in Region 8, Thailand

Adult education in Thailand has reflected the changes in international norms since its inception in 1940. Beginning in 1940 with a formal education programme for adults a switch was made to UNESCO's model of fundamental education in 1947, and in 1968, to its work-oriented functional literacy model. The effectiveness of the work-oriented functional literacy approach was apparent to Thai educators. There were, however, problems relating to shortages of resource personnel, textbook orientation of teachers and their inability to handle vocational instruction that characterized the content of work-oriented literacy programmes. Because of those limitations, the Adult Education Division began developing a new model in 1970.

The new model was constructed as a total system, starting with the formulation of a working philosophy, including objectives, and a set of assumptions about adult learners and their existing conditions in the Thai socio-cultural context. Educational planners formulated a philosophy for this programme to insure that the curriculum, the learning materials, the teacher training strategies and the instructional techniques to be used would be guided by a common set of goals.

The new philosophy developed for the functional literacy programme was based on previous Division programme experiences and a careful consideration of dominant Thai Buddhist values. This philosophy sought to promote greater self reliance in learning among adults. A process known as "khid pen" was promoted to the learners in developing the necessary tools needed to work towards the level of harmony desired in the philosophy. A "khid pen" person was considered as one who approached a problem and sought potential solutions to it by considering or analyzing data about: his personal situation, including his capabilities, weaknesses, resources and values; his environment, including his community's social, cultural, political and physical conditions; and the best accumulated knowledge available relating to the issue and its potential solutions.

In 1971, the Adult Education Division initiated the experimental functional literacy programme in the northern provinces of Lampang and Phrae, also known as region 8. The main reason for selecting these two provinces was their relatively high rate of illiteracy. Baseline surveys were conducted in order to obtain data on village living conditions. Teams sought out data on economic activities and practices; villagers' knowledge, attitudes and practices in areas of health, sanitation, family planning, agriculture and marketing;

and the literacy level of the villagers and their popular lexicon. Teams used two interrelated techniques, interviews -and group discussions.

The data was processed and materials for the functional literacy curriculum were developed. The curriculum consisted of 73 concepts divided into four general categories: agriculture, health and family life, economics and civics.

In 1974, a second needs assessment was undertaken in an effort to obtain data for validating or improving units in the existing functional literacy curriculum and for developing a more functional curriculum for continuing education programmes. Survey findings suggested that the content on agricultural techniques included in the curriculum might not be necessary, but on the whole, the survey validated the need for course content in the areas of personal hygiene, family planning, nutrition and sanitation, and the rights and responsibilities of citizenship.

Materials developed for the functional literacy programme were prepared by a working group which consisted of adult educators, Thai language experts, math supervisors and educators skilled in the northern dialects and the living conditions existing there. A textbook was developed to emphasize content relevance. Real life photographs were used to help the learners reflect on problem conditions in their community and thereby motivate them to discuss these themes. A special characteristic of the book was that it was given to the learners page by page, thus allowing them to watch the book grow as they learned.

A special handbook was developed for teachers. It was designed to suggest different ways in which the teachers could conduct classes without relying on the traditional methods of lecturing. The handbook contained lesson cards that were to be distributed to learners. It also presented the rationale of the lesson, objectives and suggested issues for discussion.

Due to financial resources and manpower, the Division was unable to maintain a structured formative evaluation programme. Through periodic follow-up meetings with teachers and supervisory personnel, the Division has received adequate feedback about the effectiveness of curriculum content. On the basis of these discussion sessions, revisions have been made in the curriculum each year.

While the Division has sought ways of making the curriculum content more relevant to learner and community needs, these efforts have been hampered by highly centralized curriculum approval mechanisms and concerns with standardization. In the near future, however, about 40% of the functional literacy curriculum will vary from region to region and will perhaps require approval at the regional level rather than at the national level. Such reforms, while important, will in themselves be insufficient. Ultimately, relevance can only be achieved to a satisfactory degree when teachers and learners are encouraged to adapt the issues posed in each lesson to their particular needs and seek, on their own, the necessary resources, informational and otherwise, that they require to resolve those issues.

The cases summarized above do indeed present a wide variety of political environments, social settings, client groups, approaches to curriculum choices and field work, materials used and provision or lack of evaluative feedback. A reader should have been impressed by the range of possibilities and by the kinds of approaches that can be followed while solving curricular problems of readers in functional literacy and nonformal education. More importantly, the reader should not have failed to be impressed by the relativity in the choice of curriculum content and curriculum approaches. Curriculum development in functional literacy is a political act; it cannot succeed unless it is sensitive to the social, economic and political configurations which surround programs and projects.

Summary

Experiences in curriculum development for functional literacy and nonformal education from ten developing countries have been summarized. The case studies have come from Brazil, Burma, Colombia, India, Iran, Kenya, Mali, Sudan, Tanzania and Thailand.

Things to do or think about

On the basis of the checklist included in the Table 5.1 "Consideration for Instructional Systems Design" included in Chapter V, critique any one case study of your choice.

CHAPTER X

CURRICULUM EVALUATION

Much can be subsumed under the phrase "curriculum evaluation." A curriculum, as we have defined it in this monograph, is an educational agenda, actualized in the form of an instructional system. This instructional system, in turn, is composed of sub-systems of instructional materials and instructional roles; and sub-systems for the delivery of instruction.

As part of curriculum evluation, one could then evaluate:

(a) the total process of curriculum development itself

(b) the choice of educational objectives (through needs assessment directly with the communities)

(c) effectiveness of the organization and sequencing of instruction

(d) performance of role incumbents in the various instructional roles

(e) effectiveness of individual items of instructional materials, including pre-testing of such materials, and

(f) the total impact of the curriculum on the lives of people, specifically, in terms of the achievement of instructional objectives.

In a separate monograph, Evaluating functional literacy by H. S. Bhola, (Hulton Educational Publications, Amersham, Bucks, U.K., 1979), problems of evaluating a total functional literacy program have been discussed in detail. Readers are referred to that volume for a comprehensive look at the evaluation of functional literacy programs. In the following, we shall only make brief comments on some of the classical questions of curriculum evaluation.

Some general principles and rules of evaluation

Some general rules and principles of educational evaluation may be useful to state here:

1. The need for evaluation should arise from the need to improve instructional materials or over-all curriculum planning and implementation. The feedback made available by evaluation must be actually used in decision making to improve the functioning of the current instructional system or for the designing of a new instructional cycle or a new program. If this is not done, there is no justification at all for conducting evaluation. Related with the preceding is the principle that evaluation should be looking for causes and not for culprits. The whole purpose of evaluation is to find out why something happened or did not happen, and how could one intervene to obtain preferred results in the future.

2. Evaluation should not be conducted for a project or a program as an afterthought; and should not be conceptualized as an activity separate from the program. Evaluation should be built into the program. It should become an integral part of the program itself. All curriculum

developers on a team should get into the habit of building evaluation into their work, by defining steps and stages when they would stop and ask the questions: What are we doing? Why are we doing it? What is the discrepancy between our intentions and actualities? It should follow from the preceding that everybody on the curriculum development team should be open to his work being evaluated and contribute to the total evaluation effort. Evaluation should not be left to the specialists; though specialists may have a role to play in some cases.

3. Evaluation should not be narrowly conceived to involve only that feedback which is based on numbers and on the statistical treatment of numbers. Evaluation is the process whereby experience is systematized and objectified. The only way to do so is not by assigning numerical values to our experiences and by treating it statistically. Evaluators may use both quantitative techniques of data collection and naturalistic techniques of data collection. They may use judgmental data, observational data, or performance data to get the picture of what is happening to learners and communities.

Table 10.1 on the next page should suggest to curriculum evaluators as to who can be the sources for their evaluation data and what different types of instruments or approaches could be used by them in curriculum evaluation.

Table 10.1 Some sources of data and instruments and approaches for data collection in curriculum evaluation

	Learners	Teachers	Supervisors	Other educational personnel	Experts	Community leaders/ members
Tests/ exercise books	x	x				
Reports/ log books/ registers		x	x	x	x	
Observation	x	x	x			x
Discussion/ dialogue	x	x	x			x
Interview				x	x	x

Let us now turn to some specific problems of curriculum evaluation in functional literacy and provide brief notes on how these evaluation problems might be defined and handled.

Evaluating the curriculum development process

An evaluation of the curriculum development process itself must involve a comparison between the process actually employed, and some model process that can serve as a norm, or standard. This means that a model of the curriculum process must exist with which most experts in the area of curriculum development agree. This also means that a clear and articulated description of processes actually employed in curriculum development within a particular program must have been developed. Then the discrepancies must be found and judgmental statements made about hte adequacies and inadequacies of the processes used. Discrepancies may have to found by a group of experts who may use both classical and naturalistic approaches to inquiry, including those of investigative journalism.

Judging the process by the product. An alternative approach to the evaluation of the curriculum development process may be that of judging the process by the products that resulted. If the products are acceptable, the process must have been adequate. The curriculum design, instructional materials, curriculum units and modules may be shown to two different groups of people: (a) experts and (b) users.

Their comments may be recorded and analyzed in regard to the adequacy or inadequacy of the curriculum as it has emerged.

Evaluating curriculum objectives

The evaluation of curricular objectives could be approached in three different ways:

Ask the experts. Ask the experts what they think of the set of curriculum objectives developed by the program.

Ask the learners. This is another name for the process of needs assessment. Do a needs assessment with learners at various levels and thus obtain a validation of the objectives being proposed for the program.

Drawing power of objectives. Evaluate your curriculum objectives by their drawing power. Are they able to draw learners to the program; and, once they are there, are the objectives able to make them stay?

Evaluating the effectiveness of training for literacy teacher or supervisors

Three different approaches can be employed for the evaluation of training effectiveness which can also be seen as a problem of curriculum evaluation:

Expert evaluation. An evaluation consultant may be invited to come and examine, the training design in the context of the over-all functional literacy program; and to evaluate training objectives, training strategies, content chosen, time allocations, and training materials developed.

Achievement and opinion at the end of a training session. Testing of trainee achievement may be undertaken to see if the trainees learned what they were supposed to have learned. This assumes, of course, that all was well with training objectives, training methodologies and training materials used.

Alternatively, or additionally, one may obtain opinions of participants as to the usefulness of the training they have just undergone.

Evaluation by impact. Evaluators may go into the field and find out if the trianing had prepared teachers and supervisors to perform in the ways and at levels they were expected to perform after training.

Evaluating a literacy primer

Literacy primers can, again, be evaluated by experts; or in terms of their effectiveness as teaching tools.

Expert evaluation. Expert evaluation of primers would be evaluation of its approach, structure and sequencing. The approach will be evaluated in terms of its linguistic and psychological adequacy; also, it will be seen whether the approach claimed to be followed is actually executed in the design of the primer. The words introduced in the primer will be examined in terms of cultural relevance and in terms of usefulness and frequency in the spoken language. The formation of sentences, the inclusion of drills of words, or syllables, and sequences used will be examined.

Teachability of the literacy primer. A primer can also be evaluated in terms of its teachability. Teachers may be asked to report on their experiences of teaching with the primer and what have they seen as being the problems with the primer. This could generate very useful feedback on the usefulness of the primer. Also, teachers could be asked to keep data on the time taken by different learners in learning the various lessons in the primer. Learners could be given tests at the end of each lesson and profiles of group performance would then give important data on the teachability of the primer.

Learner performance data. Data could also be collected on the performance by learners who have finished the primer. How much time was taken on the average in finishing the literacy primer? What was the level of literacy acquired? What kind of transfer took place to the reading of unseen reading materials? What is the known performance of some other primers which have been or are currently in use in other programs?

Evaluation of visual materials

Visual materials must, first, be evaluated in terms of the visual idiom used before these can be evaluated as communication and teaching tools. What kind of perspective has been used? What visual conventions are assumed? What kind of identifications are offered by figures and shapes appearing in the visuals? After the choice of the right visual idiom has been evaluated, questions of teachability can be handled.

Evaluation of rural news sheets

One could evaluate one particular issue of the rural newspaper or one could evaluate the usefulness of the total educational and informational component provided by rural newspaper or news sheets. In the first case, data will have to be collected as soon after the distribution of an issue of the newspaper as would give enough time for readers to read it. In evaluating the total educational component provided by the rural news sheets, a different time perspective will have to be considered.

Data collected could be achievement data: What have they learned? Or recall data: What do they remember most? Or opinion data: What do they think of the news sheets?

Evaluating radio broadcasting

Here again, one could evaluate one particular broadcast or the total broadcasting component of the educational broadcasts. Data types could again be related to achievement, recall or opinions.

To sum up, instructional materials can be evaluated as individual items, or in terms of media (radio, news sheets, follow-up books, rural libraries), constituting a well-defined component in the total instructional system. Again, instructional materials may be evaluated from the point of view of their practical feasibility and from a pedagogical point of view:

Pedagogic criteria

Choice of content *vis a vis* objectives

Relevance of objectives to learner environment

Organization of content

Appropriateness of sequencing

Choice of examples and illustrations

Integration of parts

Economy of presentation

Suitability and accuracy of language

Consistency with theory

Differentiation from material learned before and to be learned later

Balance in argument

Originality and creativity

Application and transfer.

Practial criteria

Cost

Durability

Easy replacement of parts

Attractiveness

Easy to use (random access)

Adequate instructions for setting up and for use

Flexible and adaptable

Provision for learner control and response.

We should note that these are the criteria which will be used in designing evaluation instruments for the evaluation of various items of instructional materials.

Summary

Some typical questions of curriculum evaluation have been listed. Approaches to defining the evaluation questions as well as sources of data for such evaluation studies have been discussed briefly.

Things to do or think about

Develop plans for the evaluation of:

(a) The effectiveness of your current training program for literacy teachers;

(b) The literacy primer currently in use in the program.

These evaluation plans or proposals should include the evaluation questions you will frame; and first rough drafts of the instruments you will use in the collection of required data.

CHAPTER XI

TRAINING FOR CURRICULUM DEVELOPMENT

As we have been saying throughout this monograph, and in various ways, curriculum development is something all functional literacy workers do whatever their level of work and responsibility. The man at the top does curriculum development, and the literacy teacher teaching literacy classes in the field does it.

All of us, with few exceptions, have not been formally trained to do curriculum development in functional literacy and nonformal education. We have learned our trade on the job, by trial and error. In fact, no such training facilities seem to exist, either in the developed world or in the underdeveloped world. Universities and teacher traning colleges do teach curriculum development in formal education but there is no interest within these institutions for curriculum development in functional literacy and nonformal education. As a consequence, functional literacy workers will have to train each other in the processes and techniques of curriculum development, and this training will have to take place within their own programs. The present workshop is clearly one example of how training needs in curriculum development might be met.

In the following, we shall provide some suggestions for conducting in-service training in curriculum development for functional literacy and nonformal education. We shall have to begin, of course, with the elaboration of an instructional system design for our specific functional literacy program. We shall then develop a general set of needs for curriculum developers within our particular program. Here is a set of additional considerations.

1. The client group should be clearly defined. Field workers may be trained in one curriculum development workshop; there may be a separate one for district level officials and a separate one for provincial level staff. Again, there may be general workshops or specialized workshops in curriculum development. Examples of specialized workshops would be one for writers of books for new literates, one for writing literacy primers, one for developing curriculum for the post-literacy stage etc.

1.1 When either the client groups are mixed or combinations of the general and specialized content are developed in the same one workshop, there should be well-defined reasons for doing so.

2. Think of training as an opportunity to prepare participants to perform better in their jobs on return to their institutions. The emphasis should be on better job performance. The educational component in the overall demands of work should be clarified. The course should be built essentially around the current educational needs and the possibilities of the particular role.

3. As trainers, go to the workshop fully prepared. Do not do all your thinking on the bus on the way to the workshop site. You must have conducted the workshop, mentally, half a dozen times before you arrive. You should have thought of all the possible directions the workshop could go.

3.1 Your first contact with the participants should not be at the workshop site. You must have been in touch with them before: sent them the project description; sent them the basic documentation and invited them to read it before coming to the workshop (and reminded them to bring it along to the workshop); invited them to ask any questions they may have on the professional aspects of the workshop or in regard to other arrangements. More importantly, workshop organizers should have sent all participants a curriculum planning questionnaire, for planning the curriculum of the curriculum development workshop. A few simple questions should be asked about the participants' work, their present participation in curriculum development work and what they would like others and themselves to learn at such a workshop. Since workshops will seldom accomodate more than 30 participants, these questionnaires can be open-ended questionnaires. (For a specimen preworkshop questionnaire, see Exhibit "B" at the end of the chapter.)

3.2 Bring to the workshop a group of resource persons who can provide guidance and help on a large range of issues in the area of curriculum development. The workshop should not be full of "I do not know's," "we will tell you later's," "This is not related to the workshop's."

3.3 Bring a collection of resource books with you—a sort of mobile mini library. If you think these books were not used well, do not be dismayed; bring them along anyway.

3.4 Use some sort of a handbook, to give the workshop participants a sense of security and something to go to when they have questions. This monograph (in its present form or after adequate revisions) could serve the purpose of such a handbook.

3.5 Do not just distribute the materials and inform about the availability of the resource books. Spend the time needed in introducing the resource materials; and in walking through the handbook.

4. Come to the workshop well-prepared, but do not bring with you the syllabus and the time table. Do not do that under any circumstances. Bring with you a scenario,[1] the general approach, a set of general objectives, and maybe intermediate level objectives. Come generally prepared to be able to tackle a variety of problems and issues in the area of curriculum development in functional literacy and nonformal education.

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[1] See Exhibit "A" at the end of this chapter for such a scenario.

5. Start the course by providing feedback from the pre-workshop questionnaire. Then, ask each participant to state his or her expectation, again, now in a group setting. As far as possible, formulate their expectations in their words and put them on a sheet of newsprint. (Do not use the chalkboard because the expectations as stated by the group of participants must stay on the walls in the lecture hall, where plenary sessions are held, until the very end of the workshop.)

5.1 Give the participants a report on what you had planned and why. Set up a negotiating group which, taking the "official plan" and the "participants' expectations," develops a "workshop plan" for that particular workshop, for those particular participants, in the life of a particular program, in a particular country.

6. At this time also decide upon methodologies, distribution of time and related matters. Form groups if group work will be conducted. Set up other committees such as food and entertainment committee, educational excursions committee, information and publicity committee, committee on reports, and, or course, a steering committee.

7. In the choice of activities, choose those that make the most of the opportunity for the group to be working together. Avoid busy work and doing things which could have been done by participants individually and on their own.

8. Do not get frozen into any routine. What does not seem to work in the morning, change in the afternoon. Weave the experience of one hour into the next, of one day into the next day.

9. Break down the distinction between the so-called trainers and the trainees. Let everyone contribute to teaching when contributions can be made.

10. Work hard, but make it a joyful experience. Joke, laugh, be funny—and friendly.

Summary

The need for training in curriculum development at various levels of a functional literacy program is discussed. Some hints are provided on participative, situation-specific training workshops in curriculum development.

Things to do or think about

1. Can you put together, one or more teams of trainers in curriculum development in functional literacy and non-formal education from among the specialists in your own country? What will be the composition of such teams? What people do you have in mind who would serve on these teams?

2. What is the most important group in your program setting which should be trained first in curriculum for the success of your program?

3. Write project descriptions (general scenarios) for all the various types of curriculum development workshops

you envisage for your national program over the next two years. For each workshop develop a mobile library that you could take to the workshop site for use by the participants.

EXHIBIT A

WORKSHOP ON CURRICULUM DEVELOPMENT FOR FUNCTIONAL LITERACY PROGRAMMES*

INTRODUCTION

The importance of education in development is now well understood. But what educational actions should be taken and how these should be integrated into the overall development programme remains a complex issue.

How can education be put to work in the service of development? What should be taught and to whom? With what emphasis? In what sequence and through what activities? Who should do the teaching and in what instructional settings? How can learning be transferred to real-life situations? How can the learner become independent of the teacher and able to promote independent learning and community action?

These are all questions of curriculum development to which functional litearcy workers must find answers. Curriculum is usually defined as the course of study and includes objectives, content, method, procedures, setting and other considerations which bear upon the process and outcomes of the study. For functional literacy workers (and those in the related areas of community development, agri-

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[*] This workshop was sponsored by the German Foundation for International Development, West Berlin and the Department of Adult Education, , Government of Kenya and was held during 20-31 August at Kericho Tea Hotel, Kericho, Kenya, 1979.

cultural extension, home economics, education, health and nutrition, co-operatives, small business management, etc.) curriculum development presents special challenges. In formal education things are more simple. Curricula are standardized. But education for development cannot be similarly standardized. Each community, or cluster of communities, may offer a unique development situation and each particular development situation demands its own educational curriculum.

Certainly, "national" development objectives exist. These objectives may require that a particular body of information, attitudes and skills be taught to almost all the citizens of a state. Inevitably, however, national objectives must be complemented by and interpreted in the light of community goals and needs. That part of the curriculum that is nationally prescribed, must be "brought alive" in the community setting and usually supplemented by locally developed curriculum materials.

AIMS AND OBJECTIVES: GENERAL

This workshop seeks (1) to bring together functional literacy workers and others engaged in development education at various levels in Kenya and provide them with opportunities to share and organize their experience in the development of educational programmes; (2) to bring to them a body of concepts, skills and tools of curriculum development and (3) to use both theory and insights deriving from practice for the solution of pending problems. The workshop should assist participants in relating local community needs to national aspirations, in designing educational components of development projects, and in developing curricula that enable communities to take responsibility for their own development.

SPECIFIC OBJECTIVES

The following set of objectives will be used as a framework for developing the workshop programme in consultation with participants:

1) To be able to articulate the "action strategy" implicit in a particular development project or programme. By this, we mean the participant should be able to relate, clearly and plausibly, what the programme is intended to do, how it will confront obstacles and why it is preferable to other possible courses of action.

2) To be able to specify the educational inputs necessary for the realization of the development projects or programme.

3) To be able to state and anticipate the curriculum development issues likely to be significant or problematic.

4) To be able to undertake community diagnoses to determine existing educational resources, institutions and media, and be able to propose a plan for using such educational resources, institutions, and media for implementing programmes.

5) To be able to design complete instructional systems for both learners and their teachers (leaders, monitors, etc.) on the basis of:

- a) task analysis
- b) learner analysis, and
- c) learning environment analysis.

6) On the basis of the analyses above, to be able to:

- a) design instructional roles,
- b) train professionals, semi-professionals and non-professional adults in the community for performing those instructional roles,
- c) specify the educational activities to be conducted,
- d) design instructional settings and situations,
- e) design simple instructional materials, and establish requirements and specifications for writers of primers and follow-up books and other instructional units and materials.

7) Be able to evaluate the process of curriculum development as well as the instructional materials produced.

More generally stated, at the conclusion of the workshop the participant should, (1) understand the process and requirements of curriculum development; (2) be able to serve as a member of a curriculum development team overseeing the development of educational and developmental materials; (3) be able to prepare, if required, simple curriculum materials; and (4) be able to skillfully adapt and use curriculum materials in order to tailor national programmes to suit local needs.

WORKSHOP DESIGN

This workshop, as earlier workshops on the Evaluation of Functional Literacy Programmes, will be designed in collaboration with the participants to suit their particular needs and to reflect the present development problems and opportunities in Kenya. Therefore, this Project Description merely evidences the organizers' thinking and advance preparation for the workshop. Opportunities will be available for the participants to make it their workshop and to make it fit their needs, expectations and realities. Indeed, questions of emphasis, treatment, sequence and application will be decided only after the participants have met and discussed the purposes and procedures of the workshop.

A variety of instructional methods will be used including plenary sessions for lectures and discussions, guided group work, individual consultancies and reading assignments, case studies of projects and instructional materials, and practicums for application of concepts and skills learned in the workshop. Participants will be assisted also in developing future plans both in regard to their present assignments and in respect to advanced learning in the area of curriculum development.

The role of the workshop's Faculty will be essentially that of facilitation and provision of technical resources.

Extensive use will be made of workshop groups for both discussion and practical exercises. A faculty member will be available to each working group as a 'resource person.' The leadership for the conduct of the workshop will rest with the participants and the committes they appoint.

COVERAGE OF TOPICS

The following topics may be covered, in varying depth, depending upon the needs and interests of the participants in the workshop:

1) The meaning of development; education in development; educational components of development strategies.

2) Curriculum development and social change: "a course of study" and "a course of action."

3) Organizing curriculum development developing national objectives; adapting materials to meet local needs.

4) The concept of systems and of instructional systems.

5) "Crystallizing" national objectives; determining community needs; the process of needs negotiation; the concept of strategy and generative needs.

6) Elaborating instructional objectives; categories of learning; task analysis and instructional task analysis.

7) Learner analysis; social incentives and individual motivations; individual capacities and structural constraints.

8) Designing instructional roles and instructional settings; curriculum development for training of teachers, forum leaders, etc.

9) Curriculum development problems in concrete situations: developing a lesson plan; developing a discussion format; use of traditional institutions and media; adapting available instructional materials; writing specifications for materials needed for the programme, etc. (Other issues will be generated by the participants at the workshop).

10) Evaluation in the process of curriculum development; formative and summative evaluation.

WORKSHOP DOCUMENTATION

1) Reports on curriculum development projects or actual curriculum materials from projects, programmes and institutions brought by the participants.

2) Report of the Berlin Seminar on curriculum development, June 1978.

3) The first draft of the monograph on curriculum development in the *Literacy in Development* series.

4) Excerpts from monographs in the *Literacy in Development* series.

5) Specially prepared handouts.

PARTICIPANTS

(List to be supplied).

FACULTY

(List to be supplied).

EVALUATION

Both a formative and a summative evaluation of the workshop will be conducted.

SOCIAL NEEDS OF THE WORKSHOP

The suggestions of participants regarding recreational and social activities or excursions and related matters are welcomed by the organizers.

EXHIBIT B

WORKSHOP ON CURRICULUM DEVELOPMENT FOR FUNCTIONAL LITERACY PROGRAMS

Pre-Workshop Questionnaire

Your completing this questionnaire, will help workshop organizers to develop a curriculum for the workshop that can serve you better by meeting your needs as you know them and solving problems as you have experienced them. You do not have to sign this questionnaire. Send the fully completed questionnaire to:

Mr. A. S. T. Commissioner
Literacy House
City

Please mail the questionnaire three weeks before the beginning of the workshop.

1. What is the name or a short description of the program or project on which you are presently working?

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2. What is your professional position in the program/project?

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3. According to your understanding of the meanings of the curriculum development process, who in the program/project

is responsible for curriculum development?

WHO IS DOING?	WHAT PART/ASPECT OF CURRICULUM DEVELOPMENT?

4. What is your particular role in the process of curriculum development?

4.1 What, or what more, could you contribute to the process of curriculum development for the program/project to be more effective?

5. What curriculum development processes and techniques should those learn who are already working in the program/project?

	MUST LEARN
WHO?	WHAT?

IMPORTANT TO LEARN

WHO?	WHAT?

GOOD TO LEARN

WHO?	WHAT?

6. What training methods would you prefer to be used at the workshop?

6.1 What training methods you would not want to see used at the workshop.

7. How do you think the progress of each individual participant should be evaluated, if at all, individual evaluation is necessary?

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7.1 How do you think the over-all progress of the workshop should be evaluated?

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8. What additional comments do you have about the shape the workshop should take to be most useful and effective?

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CHAPTER XII

CONCLUSIONS

In the preceding chapters of the monograph, we have shown the immense significance of the process of curriculum development, as also its complexity.

Curriculum development in nonformal education and functional literacy is culture-making. Curriculum decides what will be whispered in the nation's ears about the new aspirations. What new human identities will be exchanged for old ones? What modern skills will be taught and learned? What future will be invented? How will realities that now exist be transformed?

But an understanding of the complexity of the process should not become a training for incapacity. We do not wish to give our readers the impression that nothing can be done except by highly trained experts ,and only under the best of circumstances. We have sought to offer a challenge, not despair.

We have presented the ideal model of curriculum development. But those who succeed in life or as a nation always change the logical into the sociological, to fit their situation, rising above the circumstances, doing their best possible, in the best way they know how.

Indeed, there are examples to prove that technical superiority in curriculum development in functional literacy and nonformal education is no guarantee for success; and intuitive curriculum development is not necessarily a sure prescription for failure. In the hands of committed workers, intuitively designed curricula have worked wonders; and in the hands of the technocrats, without empathy for those they sought to serve, superior curriculum development efforts have been non-starters. This should be understandable. Curriculum development is education, but it is also politics.

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GLOSSARY

AUDIO-VISUAL MATERIALS: Teaching materials which both show (through pictures or other visuals) and tell (with accompanying sound). Examples: TV, films, slide-tape shows.

BEHAVIORALLY-STATED OBJECTIVE: An educational aim which is stated in terms of the learner's behavior which will be manifested.

CONSCIENTIZATION: A term recently made popular by Paulo Freire through his writings on Development and literacy. The word is from consciousness, and means raising of consciousness of communities oppressed by poverty, disease and injustice. Consciousness-raising, in turn, is sharpening the awareness of people in regard to social, economic, and political structures and how they can be changed.

CORE: The essential part, the essence of something. Thus, core curriculum is the central part of the teaching-learning enterprise. Also, core model: the essential part of the model which could stand by itself.

COUNTER-CURRICULA: Name given by this author to those curriculum plans which run counter to the national agenda or the stated purposes of a state-sponsored program. Counter-curricula are typically offered by opposition groups and are divergent in means and ends from programs within the mainstream of a country's Developmental efforts.

CURRICULUM: A course of study. Hence curriculum development is the act of developing a course of study. Curriculum planning and curriculum design may be used to signify the same process as curriculum development.

DELIVERY SYSTEMS: An orderly, rational organization of methods and mechanisms to make instruction available to learners or to distribute instructional materials to learners in various communities in a region. Community centers, instructional materials centers, learning resources centers, or rural mobile libraries established in a region or a country at various levels of education would be examples of such delivery systems.

DEVELOPMENT: What results from processes of change in a society; these changes being, more or less, comprehensive and encompassing changes in the economic, social, political and cultural aspects of a society.

DIALECTICAL MODEL: A model which assumes the existence of two conflicting entities or processes; and which assumes that such a conflict can be resolved in the emergence of a new entity, through interaction and synthesis.

FORMATIVE EVALUATION: Evaluation which is carried out to help in the formulation of an item of instructional materials or a curriculum plan.

FUNCTIONAL LITERACY: As defined by UNESCO, is the teaching of reading and writing to adults, tied to the teaching of economic skills. It has also been labeled as work-oriented literacy. Cultural approach to literacy differs from functional literacy in its comprehensiveness and in its choice of cultural themes in teaching reading and writing.

GENERATIVE NEEDS: Are those needs which have the power to produce or originate in the community more desirable needs in the context of national aspirations and agendas. Thus, generative needs networks are descriptions of how one set of immediate needs will lead to another and yet another set of desirable needs.

HIDDEN CURRICULUM: The teaching done by schools (or other institutions) which is not included in the printed curriculum or syllabus. Schools are supposed to have taught students obedience to authority; the concept of what it means to succeed; and to follow material goals in life. But these things people learn just by going to school and being there. Nobody lectures on them, and they are not written in the textbooks. They constitute the hidden curriculum of the school.

INSTRUCTIONAL DEVELOPMENT: A specialization within education that seeks to develop systematically and scientifically the most effective method of teaching some content to a learning group, in a particular learning setting. It involves three sub-processes: learning task analysis, learner analysis, and learning environment analysis.

INSTRUCTIONAL MATERIALS: Materials that can be used by teachers and trainers to facilitate teaching and include books, charts, posters, filmstrips, slides, films, radio, TV, folk media, games, simulations, etc., etc.

INSTRUCTIONAL SYSTEM: A system is an orderly combination of elements into a whole according to some rational principle. An instructional system is a system that can develop, offer and evaluate instruction. The elements of an instructional system are learners, teachers, instructional materials, delivery mechanisms, and sometimes, training and research components. The principles of organization of these elements into one whole are economy, effectiveness, creativity, transferability and open-endedness. Instructional system design or instructional system technology is the process of designing such instructional systems.

INSTRUCTIONAL SYSTEM ANALYZER: The label assigned by the author to a tabulation which can be used as a checklist to examine and analyze the objectives, strategies, linkages and resources of a program such as a functional literacy program.

INTEGRATION: The fitting together of parts into a whole to secure maximum unity in the performance of a function. In education, integration would mean the organic combination of different subject areas in such a way that the teaching is not of subjects but of a learning task that is conceptualized independently of subjects and disciplines.

INTERFACE: Being (conceptually) adjacent in such a way so as to have a common domain and a common system boundary.

LEARNER ANALYSIS: An analysis of the learner at the point of entry into the learning situation in regard to ability, motivation, learning style, etc.

LEARNING ENVIRONMENT ANALYSIS: An analysis of the setting of learning in regard to its material, psychological, and sociological influences on teaching-learning.

LEARNING RESOURCES CENTERS: Minimally, a covered place, which houses instructional facilities and instructional materials and where people in a community can come to learn and discuss with or without a facilitator being present. At different levels of the system, learning resources centers will have different facilities and play different instructional roles in the total system. Thus a learning resource center at the national level will be very differently organized from a learning resources center at the level of the community. The descriptors, instructional materials centers and community education centers can be used to describe the same kind of educational units.

MEANS-ENDS CALCULUS: Literally, the calculations involved, when means or ends would change in relation to each other. We use this phrase in the monograph to communicate the complexities of the relationship between educational ends that we may have in view and educational means which we may have to design for the effective accomplishment of teaching.

NEEDS ASSESSMENT: The process of determining the needs of a community in collaboration with the community itself. Typically, needs assessment would involve the collection of data on the community; and, ideally, the community itself would participate in the collection of this data. Needs assessment could be directed to Developmental needs, health needs, learning needs, etc.

NEEDS NEGOTIATION: The systematic process of integrating into one set of needs, what may have been different sets of needs as stated by different interest groups and constituencies.

NONFORMAL EDUCATION: Teaching-learning in out-of-school situations where learner participation is typically voluntary; learning objectives are of immediate and practical nature; instructional roles, content, and organization of learning are unstructured; teaching methods are participative and learner-centered; and there is, generally, no attempt at formal testing and certification of learners.

OBJECTIVES: That what is aimed at. An instructional objective is what we aim at in our teaching.

PACKAGING OF INSTRUCTION: Using technology of the videotape, film, simulation and print in such a way that all instruction becomes self-instructional; and there is none or only a minimal need of the teacher to present that material.

PARAMETER: A constant dimension or guideline.

POWER ELITE: Those in power in a society in politics, business, education, media etc. Counter-elite are those who are in opposition.

PRAXIS: The act of reflecting on the realities that surround man; and then acting on those realities to transform them to make them more humane and more just. Praxis is this never-ending cycle of action and reflection.

PROGRAM: A more or less regular, mainstream activity, comprehensive in nature, long- or medium-term, and institutionalized in regard to delivery of services and budget allocations.

PROJECT: A more sharply focussed activity, with claims to innovation, initiated to supplement or boost an on-going program, with well-defined targets and strict starting and closing dates.

SECTOR DEVELOPMENT: A well defined area within the total socio-economic organization of a society, such as, the educational sector, industrial sector, agricultural sector.

STRATEGY: A plan or technique for achieving some end. Hence instructional strategy is a plan or technique for achieving some teaching or training ends.

SUMMATIVE EVALUATION: Evaluation that sums up the resulting impact of an instructional aid, strategy or a total program.

TASK ANALYSIS: An analysis of the learning task in regard to its content, elements, hierarchies of elements, structure of principles, generalizations and examples, its logic etc., with a view to considering the best way of teaching the task.

UTILIZATION: A set of principles and techniques which have been developed by educators to promote effective use of instructional materials.